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Salesman's Manual and Guide

HARDY NORTHERN GROWN NURSERY STOCK

EVERGREENS --- FRUIT TREES

PERENNIALS---ROSES

SHADE TREES

SHRUBS

VINES

I think that I shall never see — A poem lovely as a tree — A tree whose hungry mouth is prest — Against the earth's sweet flowing breast: — A tree that looks at God all day, — And lifts her leafy arms to pray; — A tree that may in Summer wear — A nest of robins in her hair; — Upon whose bosom snow has lain; — Who intimately lives with rain — Poems are made by fools like me, — But only God can make a tree.

— Joyce Kilmer.

Sherman Nursery Co.
CHARLES CITY, IOWA

TABLE OF CONTENTS

Alphabetically Arranged

Foreword	2	Apples	23
Salesman's Manual	4	Blackberries	31
Cash Payment—How Made	9	Bulbs	62
Delivery	8	Canna	62
Delivery Point	8	Cherries	29
General Instructions	8	Crab Apples	26
Guarantee	6	Currants	32
Landscape Designing	11	Dahlias	62
Choosing the Planting.....	12	Evergreens	35-40
Free Landscape Plan	11	Fruits	23
Landscape Designs	13-15	Gladioli	62
Packing	8	Gooseberries	31
Perennial Planting Plans	16-18	Grapes	33
Premiums for Cash	8	Hedges	54-55
Prices	6	Iris	60
Pruning Information	9	Lilies	63
Replacement Policy	6	Miscellaneous Fruits	34
Service Policy	6	Ornamental Trees	41-43
Sizes	8	Peaches	30
Spraying Information	9	Pears	29
Spraying Calendar	10	Peonies	61
Stock—Why Ours Is Better	7	Perennials	57-60
Terms of Payment	8	Phlox	60
Transportation	8	Plums	27
Salesman's Guide	19	Plum-Cherry Hybrids	28
How to Handle Stock	19	Raspberries	30
Orchard Information	20-22	Roses	64-67
Cultivation & Mulching	21	Rock Gardens	67
Distances Apart for Planting.....	22	Shade Trees	41-43
How to Plant	22	Shrubs	45-49
Mice, Etc.—How to Destroy	22	Shrubs—Ready Reference for Selecting	51-53
Number of Trees Required	21	Strawberries	32
Protection	21	Vegetables	34
Pruning	21	Vines	55-56
Soils and Preparation Thereof	20	Weeping Trees	44
Where to Plant	20	Windbreak—Evergreen	40

(Continued on inside back cover)

Alphabetical Index of Varieties

A		B		C	
Acacia	46	Baby's Breath	58	Buckthorn	54
Acer Ginnala	42, 46	Balloon Flower (Platycodon)	59	Buddleia (Butterfly Bush)	46
Achillea	57	Balsam Fir	38	Bulbs	62
Alpine Compacta	57	Barberry, Box	54	Bull Pine (Pinus Ponderosa)	39
Alpine Currant	54	Barberry, Thunbergii	54	Bungeii Catalpa	42, 44
Ampelopsis	55	Basswood	42	Burr Oak	43
Amur Maple (Acer Ginnala)	42, 46	Bechtel's Double Flowering Crab	46	Butterfly Bush	46
Anchusa	58	Bignonia (Trumpet Flower)	56	Butternut	42
Anthemis	57	Birch, European White	42		
Apples	23-26	Bittersweet	56		
Aquilegia	58	Blackberries	31		
Arabis Compacta	57	Black Haw (Viburnum Lentago)	50		
Aralia Spinosa	46	Black Hills Spruce	38		
Arbor Vitae	37-38	Black Walnut	42		
Arbor Vitae American	37, 54	Blanket Flower (Gaillardia)	58		
Aristolochia Siphon (Dutch- man's Pipe)	56	Bleeding Heart	58		
Arrow Wood (Viburnum Dentatum)	50	Bloodtwig (Cornus Sanguinea)	46		
Ash, Green or Western White	42	Blue Sage (Salvia)	59		
Ash, Weeping Mountain	44	Bolleana Poplar	43		
Asparagus	34	Boston Ivy (Ampelopsis Veitchii)	55		
Asters	57				
Austrian Pine	38	Box Elder	42		
		Bridal Wreath (Spirea Van Houttei)	55		

Salesman's **MANUAL and GUIDE**

Complied and Issued

by

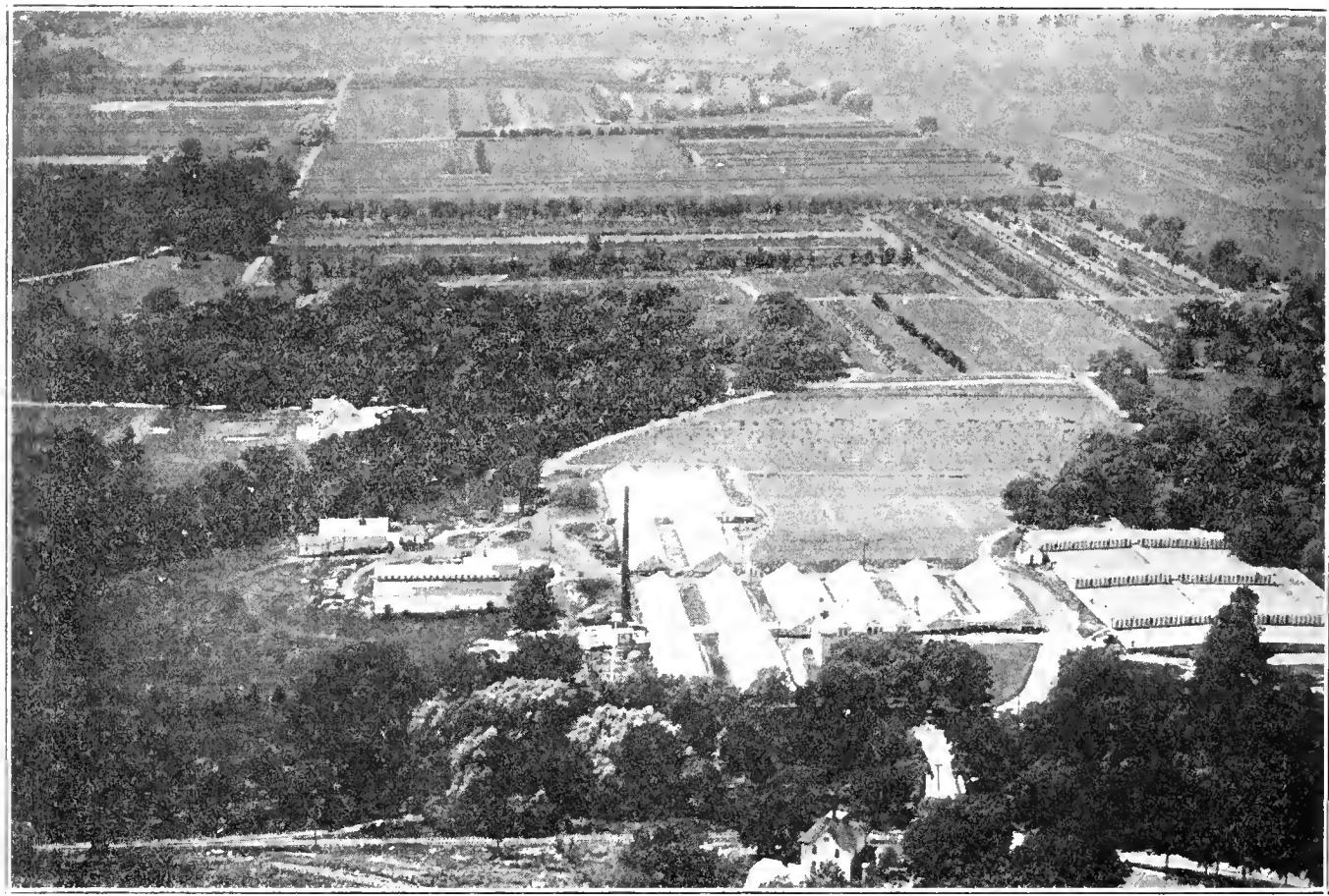
SHERMAN NURSERY COMPANY

Charles City, Iowa

PRICE 50 CENTS



Home Office



Airphoto of nursery buildings and a part of the 1,000 acres devoted to the raising of hardy, northern grown stock.

Foreword

Old, Established Company—since 1888.

Located in Northern Iowa—A summary of records kept has given Charles City a reputation of being "The coldest spot on the map."

Hardy Northern Grown Stock—Charles City grown trees have always been noted for their hardiness. The reason for this is that the peculiar weather conditions at Charles City lend hardiness to each variety. Our trees are found today growing all over the northwest, even on the great plains of Alberta and Saskatchewan in Canada. They are raised in a cold climate, therefore they can stand the winter weather.

Care and Propagation—No expense is spared in propagation, cultivation and training to produce the best, hardy, dependable stock. NO IRRIGATION IS USED! Our stock is adapted to the natural climatic conditions.

Transplanting and Trimming—All of our stock is transplanted; we do not sell the mail-order seedling grade. Each plant is carefully trimmed and root pruned to develop shapely trees and shrubs with an extra fine root system.

Packing—Each order is carefully packed in sphagnum moss and wrapped in moisture proof paper, then in burlap to withstand long shipment without injury. Evergreens will be balled and burlaped, carrying a natural ball of earth, if so specified on the order.

Prepaid Transportation—We pay the transportation charges on every order of \$1.00 or more. Stock from the Radio and Mail Order firms is often quoted f. o. b. nursery, which means you must pay the transportation charges. Nursery stock is perishable and therefore carries a high transportation rate.

Free Replacement Guarantee—All stock properly planted and failing to grow will be replaced free, with the exception of evergreens, provided written notice is given on or before December first following planting; after that date, replacements at one-half list price. Evergreens replaced at one-half list price only.

Thousands of Satisfied Customers—We can refer you to thousands of our old customers, both orchardists and home owners, who have received excellent satisfaction from planting Sherman's Hardy Northern Grown Trees and Shrubs.

A Few Nursery Snapshots



A field of Beautiful
Arbor Vitae.



Ten-acre field of sheared
Juniper and Pine.



Mugho Pine—A fine dwarf
Evergreen.



A specimen Evergreen block. Note wide
spacing and proper trimming.



50-acre block of Hardy Apple trees.

Salesman's Manual

To our Salesmen:

As our representative the vocation in which you are now engaged is salesmanship—the greatest vocation in the world. Today as never before is its importance realized and admitted. During the past few decades a great deal of study, effort and money has been devoted in all lines of industry to the improvement of production methods, until they have become so efficient and extensive that we are now producing at low costs more goods than we can distribute (sell) or consume. Our supply is in excess of the demand. I need not tell you the result of this situation—it has been all too self-evident during the past few years.

The salesman is a creator of demands. It is through his work that markets are developed and expanded—it is through his efforts that the products of our factories and fields are distributed. When he slackens his efforts, when his sales decrease, industry slows down and men are thrown out of employment—he is therefore also a maker of jobs. When he stops—all stops. Salesmanship is the axis upon which industry revolves. You can well be proud of your vocation, for upon your efforts and the efforts of thousands of others engaged in selling depends the happiness of hundreds of thousands of your fellowmen.

The fundamentals of salesmanship are the same regardless of the particular line or commodity you are selling—it is only the application of these fundamentals that differs.

Briefly enumerated, some of the essential qualifications of a successful salesman are: ambition, enthusiasm, honesty, resourcefulness, perseverance, loyalty, knowledge of goods, and a willingness to work. Of these qualities possibly the last mentioned is most important. The possession of all the other qualities mentioned will be of no value to you unless you work. Constant, consistent, intelligent work is what produces orders and builds permanent business. Mediocre ability and hard work produce greater results than superior ability and laziness. The law of averages holds good—the more prospects called on; the more prospects sold.

Your efforts cannot be intelligent efforts without a knowledge of your goods—therefore you must study your line. You must know more about your product than your prospect does, be able to answer his questions in an intelligent manner—be able to dominate the conversation. Only knowledge will enable you to do this.

Ambition is essential to success in any line of endeavor. It is the desire to achieve, to attain; the spark that ignites your energy. In it you build your castles—your hopes for the future.

Enthusiasm, a most potent quality in salesmanship—a quality that "is catching," that carries your prospect with you, that denotes sincerity, enjoyment of your work, a vision of its possibilities—a convincing quality that is born of knowledge.

Honesty, a quality which should need no comment. That continued success requires honesty has always been a recognized fact. Examples of the disastrous results in high places of its lack of observation have been evident during the past few years. Tell the truth and you will not have to remember what you said before. Be honest in your statements, efforts and acts.

Resourcefulness is the ability to find a way to accomplish your goal—to get under, over or around the obstacles that stand in your path—to deviate from set methods or plans, to successfully meet your customers' objections, to overcome competition and to solve the many perplexing problems that arise in life.

Perseverance—Stick-to-it-iveness—The ability to face disappointments without discouragement—to carry on against odds—to accept rebuffs—"to hang on." The persevering salesman does hear the prospect say "No"; he summons his resourcefulness and approaches the subject from another angle. Failure to close on the first call doesn't prevent him from making future calls—he forgets a "turn-down" as soon as the interview ends and approaches his next prospect with full enthusiasm and increased determination to sell him. The "never die spirit."

Loyalty—True and faithful to your work, your company, your friends—ever ready to defend any criticism against them; not possible without a confidence and belief in them and without which you cannot render an honest service to your company, your customer or yourself.

If you do not possess these qualities in a high degree, cultivate them, build them up, for good salesmen are made, not born. They are the result of hard work, training, study and experience.

In all sales there are five steps—you pass through all of them either consciously or unconsciously whenever you close an order. They are:

Attention, Interest, Desire, Decision, Action and follow in the order outlined.

Many methods are used for attracting or gaining attention—be sure your method obtains interested attention. Shooting a man would attract attention but would not assist you in selling him nursery stock. The billboards in colors along the roadside, the show windows in the stores, the electric signs along the streets, the colored posters in front of the movie houses, are all for the purpose of attracting attention.

When you spread your Plate Book before your prospect, its beautiful colored illustrations gain attention at once. Use your Plate Book religiously in your canvass. We have intentionally omitted extensive descriptions and information from this book, believing it is good psychology to present to your prospect's vision more color and less printing. **Tell him** the merits of planting—**Show him** its appearance in actual colors. Color attracts and impresses. What we see impresses us much more than what we hear.

Attention is only the first step—the opening of the door; interest must be immediately aroused—for without interest attention is of no value so far as making a sale is concerned.

Remember, the prospect's interest is in himself, his family, his home, his business—not in you or your efforts. Be sure your first statements are concerning something in which he is interested, and be sure they are such as will result in his agreeing with you—don't give him a chance to say "No" or assume a negative attitude at the beginning of the interview.

Make the opening of your canvass simple—something that is self-evident or generally admitted—something on which he does not require convincing. He will start to build up a defense as soon as he realizes you are trying to sell him something. Weaken his resistance by getting him to agree with or endorse your statements. He cannot but agree that the flowers as shown by your Plate Book are beautiful—that well landscaped lawns improve the appearance of the home—of the value and advantages of fruit trees—the protection afforded by a windbreak, etc. The admission of these facts does not assure a sale; but you have a favorable start.

Desire is the next step—the creation of a feeling of a strong want for what you are offering him—a desire for your planting stronger than his desire for other things he would like to have—strong enough that he is willing to exchange his reward for hard work (money) for what you are offering. This is accomplished in nursery stock sales by appealing to one or more of the motives mentioned below.

Money—This is probably the motive that influences our actions in life more than anything else—through our purchase we hope to gain money. In the sales of nursery stock this is the motive that prompts the commercial plantings of orchards and small fruits—the landscaping or planting of grounds by contractors or home owners who plan on selling their properties at a profit—the purchase of berries and fruit trees for the back yard to save or gain the profits made by other growers or stores who offer these fruits and berries for sale—the purchase of bulbs or plants for propagating purposes with the thought of selling the increased or multiplied stock at a profit—the growing of flowers for inside the home to save the cost of buying cut flowers—the purchase of windbreaks to protect live stock and maintain their gain of weight and continued production during the winter weather and to save fuel bills in the home.

Beauty—The motivating desire of the buyer who loves flowers, trees, blooming shrubs, beautiful landscaped lawns. Your Plate Book will have an extraordinary appeal to this motive.

Pride—The satisfaction derived from that feeling that what we have, where we live, what we grow, what we do, is superior to others. The pride in appearance of our home and grounds; the pride in producing a greater yield, a larger specimen, of more attractive arrangement, of a rare variety, of a superior

quality of stock; pride in our town, our community, our neighborhood.

Caution—The desire to protect against error, inconvenience, embarrassment, criticism, loss, etc. The purchase of fruit trees and berries of different varieties to guard against the possible failure of other crops or certain varieties. The planting of hedges to protect lawns, gardens and buildings; the screens to insure privacy, windbreaks to protect crops. The desire to buy hardy stock—to deal with a reliable company—to have a guarantee against loss. The last are very favorable factors for you.

Pleasure—Our desires for diversion, amusement, a gratification of certain senses. The pleasure of seeing things grow, of working with flowers, the satisfaction of having grown them yourself, the pleasure of a shady nook in the yard.

We are influenced by other motives than these, such as Utility, Patriotism, etc., but the foregoing are the most important in sales of nursery stock.

The strength of these motives vary in different people. You must determine in the progress of your interview which is strongest in your prospect and devote your appeal largely to that one.

Though you have succeeded in gaining Attention, arousing Interest, and creating Desire—your sale is not yet assured—you must force Decision to buy and impel the Action of signing your order blank.

You are at a very critical point of your canvass and **NOW** is the time for you to convince the prospect that **NOW** is the time for him to buy. Present the logical reasons why it is of advantage for him to decide now—remembering of course that he does not have to pay for the stock until delivery time. Many orders are lost by salesmen failing to realize that the prospect has made his decision—in his own mind—and it is time to present the order blank for Action—they continue talking—and talk themselves out of a sale. Only you, in the presence of the prospect, can determine when that point is reached. When he has signed the order, compliment on his purchase, assure him that his act was one of good judgment, leave him highly satisfied with the transaction.

One of the foregoing paragraphs stressed the necessity of Knowledge of Goods. In this Salesman's Manual and Guide, which has been prepared especially for your use, we have incorporated such information that if studied, will enable you to accumulate all the knowledge essential to the intelligent selling of nursery stock. It has been prepared at considerable expense and effort, but its value to you is dependent entirely upon your study and use of it.

As our representative, your customers are going to look to you for expert advice on such matters as follows:

- How to plan landscaping for homes or public buildings.
- How to locate, plant and care for shelterbelts.
- What fruits are suited to their locality and how to raise them.

- When to spray and what to use as a spray for different pests.
- How to protect trees and shrubs from sunscald, frost, rabbits, etc.
- When different shrubs blossom, how high they grow, etc.

All of these, and many others, you will find discussed on the pages that follow.

If you expect to devote ten hours a day of your time to this work, thirty minutes of it spent each day in familiarizing yourself with your line will enable you to make more sales in nine and a half hours and to better serve your customers, than if you spent ten hours trying to make sales without preparation.

The fore part of this book is devoted to general information; it refers to your Company, outlines its experience; its policies; explains why stock grown by it is superior, etc.

In the Guide you will find the different plants classified under their respective headings. Every tree, shrub, plant and flower we produce and offer for sale is listed herein.

Each variety is briefly described with pertinent facts concerning it. Description and information is alphabetically arranged for quick and easy reference to varieties with which you are not mentally acquainted.

Familiarize yourself first with the popular varieties. These are pictured in natural colors in your Plate Book.

Use the Plate Book when presenting your sales talk. The beautiful illustrations will attract and interest your prospect.

No prices are shown in the Manual and Guide. These will be found in your sales price list. Do not write them in your other books. We are not a mail order house. You are selling high-grade stock. You are our representative, and you, not the postal service, are carrying our message.

Sell your prospect first on the high quality of your stock, your superior method of packing, your liberal replacement policy, our experience and reliability; with the assurance that your prices are competitive for like quality of goods.

Cheap nursery stock is a poor investment. Its failure to survive not only results in the loss of cost and effort of planting, but the loss of time required to mature.

Sell quality—sell satisfaction.

Refrain from quoting prices until the desire for planting has been created and you will have avoided the confusion and the diversion of interest created by the exhibition of a varying line of prices of different varieties.

For actual value delivered nobody has a better price than you; be assured and convince your prospect of that fact. People must be convinced that they are getting their money's worth. When they buy from you, they get it.

Our Service Policy

Incorporated in 1888 the Sherman Nursery Company has for nearly half a century been serving the home lovers of the Middle and Northwest.

In a little less than 50 years it has grown from a small 20-acre patch with a single hot-house to a 1,000-acre plant with thirteen large greenhouses—the evidence of a satisfactory service rendered.

Specializing in evergreens, we have for years been acknowledged the largest growers of evergreens in the world. More than ten million evergreens are growing on our grounds at this time.

Our aim and effort has been and is to grow and supply our customers with the very best quality of nursery stock that the soil of Iowa can produce. To this end, at all stages of growth, from seed to market maturity, our stock is subjected to rigid inspections; hundreds of trees and shrubs are culled out each year and only the highest grade stock reaches our packing house.

GUARANTEE

We guarantee our stock to be strictly first quality, graded by the highest standards known to the nursery trade. We guarantee it to be in healthy growing condition at the time of delivery. Any stock that does not come up to this guarantee will be replaced without charge upon immediate notification thereof.

Replacement Policy

We agree to replace free all stock properly planted and failing to grow (except evergreens) provided written notice is given on or before December 1st, following planting, and after that date replacement will be at one-half price only. Evergreens will be replaced at one-half price only.

Prices

Our prices are for the goods delivered in first-class condition at the delivery point. We pay shipping costs and make no charge for boxing and packing. Our prices are based on the cost of growing and delivering high quality nursery stock and they will compare favorably with those of any other reliable firm supplying the same high grade stock.

Planting Instructions

Every purchaser is furnished with a booklet of Instructions for the planting and care of Trees, Shrubs, Vines and Plants which makes planting easy.

Why Our Stock is Better

The first or purchase price of a tree or shrub is the smallest part of cost; if it fails to survive, the customer loses not only its purchase price but in addition his planting labor and the time required to mature. Naturally, he is dissatisfied and disappointed. Therefore, it is well for you to be able to inform your prospective purchaser why Sherman stock is better and a wiser investment than ordinary stock offered him for a few cents less.

Starting at the source of all plant life, the seed, root or cutting from which it is produced; the ancestry of such seed, root or cutting, is the first important factor, the same as the ancestry and environment of a human being has a bearing on what that individual may develop into and how many hard knocks he or she will stand.

In the early history of our firm, we commenced to choose and select the most thrifty and hardy specimens of individual varieties of trees and plants from which to propagate or produce the thousands of their children that were to follow.

Various sections of the United States, such as the cold, severe climates of our northern latitudes, the rugged slopes of the Rocky Mountains, the great semi-arid sections of our Western plains, the mountainous coast range of the Northeastern states, the most trying sections of Europe, the great expanses of the plains and mountains of Japan, China, Russia, Siberia and Scandinavian countries, have all furnished their quota of trees and plants of vigor and hardiness that you, Mr. Salesman, might have the most complete assortment of hardy trees and plants to offer your customers that have ever been assembled by any one firm.

The names and descriptions in this catalog will give you many hints as to the source of the original plants of many varieties; for instance, Black Hills Spruce from the Black Hills of South Dakota; Colorado Blue Spruce from the Rocky Mountains of Colorado; Japan Tree Lilac from Japan; Siberian Arbor Vitae from the plains of Siberia. Norway Poplar and Russian Olive also show their source; Patten Pear, one of its original parents was the Chinese Sand Pear, a wild thorny type which laid the foundation for more than thirty years' work and study in the crossing of this variety with our highly flavored but more tender varieties. The results are worth the effort; fine pears can now be grown three hundred miles farther north. These are only a few of the instances of the source of the original supply which after years of choosing, selecting and adapting to the climatic conditions of the Middle West, enable us to give your customer this varied selection of types and varieties of trees and plants to beautify his home.

Northern Grown Seed

Some time ago we put the following question to a professor of one of our Middle Western Agricultural Colleges: "In your opinion is the saving of hardy Northern grown seed for the growing of seedling apple trees, on which our different varieties are grafted, of any special value to the planter?" He replied, "Most certainly. In 1924 we planted at the college farm, plots of one-year-old seedlings of French Crab, Vermont Crab, and Northern grown seedlings. The seed for the latter was saved from such hardy varieties as Patten Greening, Wealthy,

Hyernal, etc. The freeze of October, 1925, caught all of these under equal conditions of soil, culture, etc. An examination of the trees in the spring of 1926 after growth had started showed that practically all of the trees from French Crab seedlings were killed back to the ground line. The Eastern or Vermont Crab seedlings were killed back about fifty per cent, while the trees from Northern grown seed came through in excellent shape. Some of the latter were entirely free from injury, and practically none were killed back for more than three or four inches."

The freeze of October, 1925, referred to above, killed thousands of trees even as far south as Texas. Most nurseries use French Crab or Vermont seed to grow the seedlings on which they graft the different varieties. Our trees are grafted only on seedlings grown from Northern Iowa grown seed, saved here at the nursery from such varieties as Duchess, Wealthy, Hyernal, and the Patten Greening, all of which are among the hardiest varieties.

The above is one reason why our apple trees are better. The same practice holds true in Plums, Cherries, Pears, etc. Not only are the roots from Northern grown seed but the scions are Northern grown and the young trees themselves are grown to maturity on the open, wind-swept prairies of Northern Iowa. This makes our trees hardy, for none but hardy trees endure. A tree or shrub that stands this test will succeed most anywhere.

A study of the table below will show you that Charles City is really "up north" as far as weather conditions are concerned—the average annual temperature is the same as St. Paul, Minnesota.

Place	Years of Record	Av. Temp. Dec.-Jan.	Av. Annual	Altitudes
			Temperature	
Charles City.....	25	20°	45°	1075 ft.
Huron, S. Dak.....	23	17.5°	44	1287 ft.
Helena, Mont.....	24	24.4°	43	4109 ft.
Havre, Mont.....	23	16°	41°	2183 ft.
Kansas City.....	15	33.1	54°	909 ft.
LaCrosse, Wis.....	31	22 ¹ ₄	46°	673 ft.
Omaha, Nebr.....	33	27 ¹ ₄	50	1105 ft.
Pierre, S. Dak.....	16	20	47°	1455 ft.
St. Paul, Minn.....	31	19 ¹ ₄	45°	758 ft.

The above is no comparison of "freak years." It covers the weather conditions for a generation. Latitude taken into consideration, Charles City has the reputation at the Weather Bureau of being the COLDEST SPOT ON THE MAP.

Our trees are better because they bear early. Expert growing and fertilization as well as growing each class on soil adapted to it develops a root system which can be equalled in but few nurseries. For this reason our trees transplant well. It is no unusual thing for our trees to bear fruit the second year out.

Our trees are better because they are true to name. We grow them ourselves. The buyer of nursery stock cannot be sure of getting what he orders when dealing with firms who grow little or nothing themselves, but buy it wherever they can get it the cheapest.

Our trees are better because they are packed and delivered to the customer better. The ex-

perience of several generations of nurserymen is represented in our packing methods. Our packing cellar covers approximately one and one-half acres; it is thoroughly insulated and provides ideal conditions for handling and packing nursery stock. Compare the condition of our trees on delivery with the condition of the trees from the ordinary nursery and you

will quickly understand another reason why we can say "Our trees are better."

Thousands of dollars and years of labor have been spent in the selection of our trees and plants and in their improvement, as well as in improving the methods of production, handling and packing, that our customers might have the best tree, shrub, plant, or vine that money can buy.

General Instructions

Be honest in your dealings—truthful in your statements. Sherman Nursery Company's stock is of the quality that requires no misrepresentation to sell it. This company has made its extensive growth through the superiority of its stock; honest and fair treatment of its customers and the rendering of an intelligent and efficient service. You are our representative and as such are responsible in a large way for the maintenance of the good reputation we have established and the further continuance of our growth. The public judges a firm by the conduct of the men who represent it. The good will we have built up is a most valuable asset—we expect you to protect it. And by so doing, you will be building for yourself that same item of "good will" and a permanent and profitable business.

Sizes

Avoid confusion and misunderstanding by confining sales strictly to sizes and varieties in your price list. Write sizes in your order blank as they are shown in your price list; under no circumstances write in a single exact size, such as 5 ft., 6 ft., or 18 inches; confine your specifications to the range printed in the list.

Delivery Season

Do not promise a definite date for delivery. We guarantee to ship at the proper time for planting—we cannot agree to ship on any particular day.

Delivery Point

Inform your customers they will be notified to call for their stock at some centrally located place in town at time of delivery; do not agree to deliver goods to premises. Bunch your deliveries so far as possible at some central delivery point; avoid making deliveries at every small town. As a rule, customers can be induced to go to your regular delivery station. Don't write orders for delivery to inland (off the railroad) towns.

We Pay Transportation

The prices quoted in your Price List are for goods delivered at the railroad station, transportation charges prepaid. The same rule applies on express or parcel post shipments. Some nurseries make an extra charge of 10% or more to cover cost of packing and transportation. Stock supplied under our Replacement Policy is shipped by express, charges collect.

Packing

Every customer's order is burlapped at heavy expense to us to assure delivery of his order in

first class condition. Large orders are boxed with plenty of moist packing material. No extra charge is made for this feature of service.

Terms of Payment

All orders must be taken with the understanding that cash will be paid in full at time of delivery unless payment has been made in advance.

Premiums for Cash With the Order

The cost of nursery stock is increased when it is shipped to the customer's town or city to be delivered by some local party or a regular delivery agent, for the reason that this delivery and collection plan requires the nursery company to hire some business man or bank to look after the delivery for them. In case the delivery is large a man trained in the care and handling of nursery stock must be sent to see that the customer's goods are properly delivered. This means thousands of dollars in railway fares, salaries and other expense yearly.

If goods are shipped parcel post or express C. O. D., there is a charge made for collection and return of the money. The handling of deliveries and collection by the above methods makes necessary an expensive bookkeeping system, and a lot of high priced office help to handle the thousands of accounts.

These are the reasons that caused us to adopt the plan of CASH WITH ORDER. In adopting this plan, however, we have also planned that the customer who so pays should share liberally in the saving which prepayment makes possible.

What We Do for the Customer Who Sends Cash With Order

We allow liberal premiums to all customers paying cash with their order. Every salesman should carry with him our special premium lists. These lists cover a large and varied assortment of useful and desirable trees, plants and shrubs, and in most instances the customer can, by careful choosing, get absolutely free, as a premium, stock equal to as much as 20% of his purchase.

In case the premium lists do not carry the stock your customer would prefer, allow him to choose from your catalog, any stock as a premium, equal to 10% of his cash payment.

We acknowledge to the customer, receipt of his order and payment as soon as it is received, sending him a copy of the order as booked by us.

If cash payment does not accompany the order, we send with the copy, our latest pre-

nium list that the customer may consider it at more leisure with his family and select those premiums that will work into their plans to the best advantage.

How the Customer Makes His Cash Payment

FIRST. All salesmen are provided with blank checks so drawn in our favor that they may be cashed ONLY at our bank in Charles City. The style of checks is no reflection on the salesman but affords the customer absolute assurance that you are authorized to make the deal and that proper credit will be given.

SECOND. If the customer prefers to send the remittance to the company direct, he may do so and we will acknowledge receipt of it and credit his order with the remittance, at the same time book the order for the desired premiums.

Pruning Information

For trimming of plants for planting, both in branch and root, see directions under each class of stock, such as apple, shrub, etc. The following instructions are given for the pruning in later years.

Light trimming may usually be done at any season without causing injury. If heavy trimming is necessary, it should be done preferably in late winter or early spring, or it may be done in early June when tree or shrub is just reaching full leaf and is full of vitality and just starting its new wood growth.

Apple, Plum, Cherry, Pear and Peach. See page 21.

Grapes. See page 33.

Currants and Gooseberries. Thin out hills in early spring, leaving 3 to 5 main stalks of the previous season's growth, cutting all two-year-old wood down to the ground.

Blackberries. Handle same as black raspberries.

Raspberries, Red and Black. Fruit borne on new growth. Clip back new stocks to thirty-inch height in June or July while wood is still soft, which makes these stocks branch and increase the bearing, wood and yield. In early spring before buds start, thin out hills of Red variety to 3 to 5 stalks of previous season's growth. Remove all dead wood. On Black variety, trim all limbs from the main stalks back to 9 to 12 inch lengths at this time.

Hedges, Unclipped. Remove in the early spring only dead wood, or if hedge is getting larger than desired, cut off close to the ground the larger and older canes, leaving the younger

canes to form a new hedge. The young canes may be trimmed back but be sure to leave enough wood surface to produce plenty of foliage, that the plant may sustain itself.

Hedges, Clipped—including clipped evergreen hedges, such as the Arbor Vitae. Special shears may be had at a small cost for this work and can usually be obtained from your local hardware dealer. Early June is usually the best time to trim hedges. Should the growth be excessive, however, they may be trimmed again later in the season at almost any time up to August. If trimmed later than this, they are apt to look rough the balance of the season as they are not likely to put on much growth after that date. In case a hedge has become overgrown and unsightly it may be heavily trimmed, bringing it to a lower height, if the trimming is done early in the spring before buds start.

Shrubs. Early flowering varieties or those flowering during May, June and July—cut back immediately after flowering season is over, allowing them to throw out numerous shoots of new wood for the production of the next season's flowers. Late flowering varieties—those blooming after May, June and July, trim same as above except that trimming should be done prior to the showing of leaf buds in early spring.

Roses. Most bush varieties flower more freely if cut back to 15 to 18 inches of the ground in early spring. Climbing varieties flower more abundantly if at least one-third of previous season's growth is removed.

Spraying

On the next page will be found a Spraying Calendar, showing the formulas in most common use and directions as to their application. If the information you seek cannot be found in this calendar, or if trees suffer from some disease or pest not mentioned, we advise writing to your Agricultural Experiment Station, giving full details and particulars.

All amounts of lead arsenate referred to in the Spraying Calendar are for the dry, powdered form. If the paste form is used double the amount listed. Orchard and garden spray material and equipment in quantities may be purchased through the Iowa Fruit Growers' Association, State House, Des Moines, Iowa, at wholesale prices.

Do not spray with arsenates or copper compounds within 3 weeks of the time the sprayed portions are to be eaten. While there would be no danger of fatal effects resulting, it is best not to run any risk. Bordeaux mixture and other lime compounds should not be used upon rough or full-grown fruits even as late as that time. Not only does the lime disfigure the fruit, but the amount of copper is large.

Spraying Calendar

APPLE, PLUM, PEAR, CHERRY TREES

TROUBLE	WHEN TO TREAT	WHAT TO USE AND HOW
Oyster shell, surfy and San Jose scale, peach leaf curl and plum pocket.	Dormant—Where scale is bad apply spray in March or early April before growth starts.	5 to 6 gallons lime sulphur with water to make 50 gallons. Completely cover surface of bark. Use only 3 gallons lime sulphur to 50 gallons for peach leaf curl or plum pocket.
(1) Apple scab, pear scab, brown rot on plum, canker worm, curculio and green fruit worm.	Cluster Bud—When blossom buds have separated and before the individual blossoms have opened.	5 to 6 quarts lime sulphur. 1/2 pounds lead arsenate. 50 gallons water.
(2) Codling moth, canker worm, curculio and apple scab.	Petal Drop or Calyx—When 95 per cent of the petals have dropped from the blossoms.	5 quarts lime sulphur. 1/2 pounds lead arsenate. 50 gallons water.
(3) Codling moth, apple scab, apple blotch and curculio.	Side Worm Spray—Apply 10 to 14 days after the calyx spray.	4 1/2 quarts lime sulphur, 50 gallons water or: Bordeaux Mixture 3-3-50, 3 pounds copper sulphate, 3 pounds quicklime, 50 gallons water. Use 1 pound lead arsenate with either.
(4) Second brood codling moth, apple maggot, scab, sooty blotch and black rot.	Fourth Spray—Apply July 20 to 30. Spray only fall and winter varieties of apples.	4 quarts lime sulphur. 50 gallons water or Bordeaux Mixture 4-4-50. Use 1 pound lead arsenate with either.
(5) Second brood codling moth. Sooty blotch.	Fifth Spray—August 1 to 15 or about 2 to 3 weeks after fourth spray.	Same material as for fourth spray. Fungicide may be left out if diseases are not bad.
NOTE—Where apple maggot is bad apply extra spray 2 weeks earlier than fourth spray, using same materials.	Note—Where apple blotch is found, put on an additional spray 4 to 5 weeks after the calyx spray.	NOTE—Write the Horticultural Extension Service for information concerning other orchard troubles.

GRAPES

Anthracnose and black rot, grapeberry moth, grape-root worm, grape curculio and leaf-eating insects.	1. A few days before blossoms open. 2. After blooming when grapes are size of small shot. 3. Two weeks after No. 2. 4. Ten days or two weeks after No. 3.	1. Spray with Bordeaux 4-4-50 formula. 2. Spray as in No. 1 plus 1/2 pounds of lead arsenate for leaf eating insects 3 and 4. Same as No. 2.
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BLACK RASPBERRIES

Anthracnose.	1. Just before leaves appear. 2. When new shoots appear. 3. Just before blossoming.	1. Spray with lime sulphur 2 1/2 gallons to 50 gallons of water. 2. Spray with lime sulphur 5 quarts to 50 gallons of water. 3. Spray same as in No. 2.
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STRAWBERRIES

Leaf Spot.	1. When new growth starts in spring followed by two more applications at intervals of 10 days or 2 weeks.	Bordeaux Mixture 4-4-50.
Leaf Roller.	When insect first makes its appearance, followed by weekly applications until fruit is well formed.	2 pounds lead arsenate. 50 gallons water.

CURRENTS AND GOOSEBERRIES

Currant "worm."	When insect makes its appearance.	3 tablespoonsfuls dry lead arsenate to each gallon of water. See also page 18.
Aphis or plant lice.	Insects will be found on under side of leaves.	Nicotine sulphate, 2 teaspoonsfuls to each gallon of water.

GARDEN FLOWERS AND HOUSE PLANTS

Aphis or plant lice on roses, nasturtiums, poppies and all other garden flowers, house plants and shrubs.	As soon as the lice are discovered.	Nicotine sulphate (commercial name, "Black Leaf 40"), 1 teaspoonful in 2 quarts of water. Dissolve about 1 cubic inch of soap in the water.
Rose slug or worm.	As soon as discovered.	Spray with arsenate of lead, 1 ounce to a gallon of water.
Rose leaf hopper. Whitish jumping insects which suck the juice from the plants.	As soon as discovered.	Treat as for aphis or lice.
Red spider on hardy phlox. Tiny spider-like insect on under side of leaves.	When leaves turn yellow.	Spray with soap and nicotine solution as for lice. Syringe foliage often with water during dry weather.
Powdery mildew on the rose and other plants.	When whitish powdery patches appear on leaves and young shoots.	Dust the foliage with sulphur or spray with potassium sulphide, 1 ounce to 3 gallons of water.
Scale and mealy bug on ferns, palms, and other house plants.	As soon as discovered.	Spray with any of the following: Lemon oil emulsion. Fir tree oil soap. Fish oil soap. Repeat in 10 days if necessary.

Landscape Designing

Landscape designing is the art of laying out grounds and arranging trees and shrubbery of suitable kinds so that when they have developed, the whole effect will be pleasing and attractive. It is a highly developed art and only those who have given the subject considerable study are qualified to practice it successfully.

A person who can take a set of buildings on a bare lot and by judicious setting of trees, shrubs and vines, make the whole into a beautiful home, is just as much an artist as one who paints a beautiful picture.

A house may be complete so far as the builder is concerned when it is ready to move into. It may have every modern convenience of heat, light, water and gas, but until the furniture and furnishings are in place inside, and the lawn and shrubbery properly planted outside, it is far from being complete.

Certain of our salesmen are skilled landscape designers, having been trained in that field.

In addition to a number of skilled designers in the field, we have a landscape department at the office where complete landscape plans are made for our customers.

We warn our salesmen against inventing landscape plans on their own account until they have had considerable field experience and an opportunity to observe and study landscapes planned by skilled designers.

To assist those of our salesmen who at this time lack landscape design knowledge and experience we submit on the following pages several designs prepared by our landscape department. The artistic value of these plans has been proved in actual plantings; they are reasonable in cost and in the majority of cases one of the plans as drawn will exactly fit your problem—if they do not fit some slight change such as the removal or addition of a shrub or a shifting in location will generally be sufficient to make the plan satisfactory.

However, if you desire a more complete landscape plan than these suggestions cover, such as having the entire premises planned, or where there are already some parts planted and you want the remainder of the grounds arranged to match, our landscape department is ready to help with drawings and suggestions, upon submission by you of a rough sketch as outlined in our Free Landscape Service Plan.

Free Landscape Service Plan

Our Landscape Department will furnish a pen and ink sketch or a colored drawing of your premises, showing the location of all buildings, walks, drives, etc., and the proposed location of every tree, shrub and plant to be used and also the estimate of cost, following as closely as possible every suggestion made by you.

For this we make a minimum charge of \$2.00, which must be sent in with the "rough sketch." See illustrations which follow as to how to make a rough sketch. This charge is made to discourage curiosity seekers, for the \$2.00 is credited on the purchase price of the order if it amounts to \$25.00 or more, so the service in reality costs nothing.

In the case of large estates, parks, cemeteries, etc., our landscape department charges a reasonable amount, and should the customer wish our landscape superintendent to visit the premises for the purpose of going over the grounds in consultation, a charge will be made to cover his time and expense while away from the office.

THE ROUGH SKETCH

In order to furnish you with a blue print or a pen and ink sketch of your premises we need first a "rough sketch" like the model on this page. Make one like it on any plain paper. Make the sketch large enough so it can be read easily.

Whenever an "X" appears in the sample sketch shown here, measurements should be taken of the premises and filled in on your sketch so that the following information is shown:

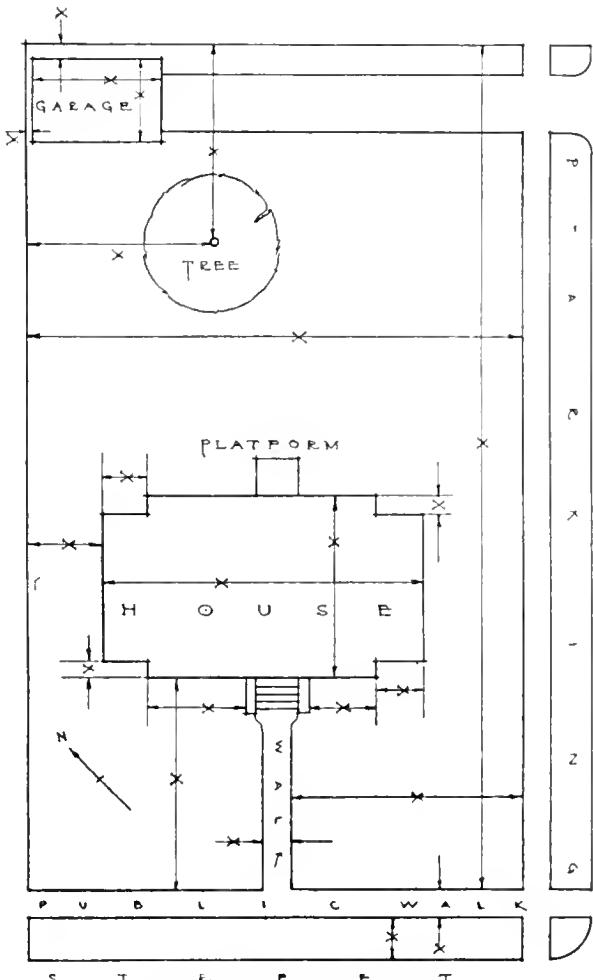
Size of the lot;

Size of the house on all sides;

Distance of every building from one end and one side of the lot line.

Location of all doors, windows on ground floor, coal chutes, etc.

Location of every tree now on grounds, their size and kind.



Sample Rough Sketch

Location of all shrubbery now on grounds, its kind and size.

Size of every other building on the lot.

Which direction is north.

Which is the front of the house.

Location of all walks and drives, their width and kind.

Width of parking outside the walk.

Kind of soil, and if ground is level, terraced or sloping.

Style of house, such as bungalow, cottage, Colonial, square, etc., and the material of which it is built.

If possible, send along a snapshot or two of the property.

If there are any undesirable views that you wish screened, tell us where they are.



After landscape planting.

Choosing the Planting

These suggestions have been supplied by our Landscape Department to enable you to choose the proper shrubs and plants for the individual home.

By referring to pages 51 to 54 which show proper distance apart to set the different kinds, you can easily select number and kinds suited to any style of home.

However, exact distances apart for shrubs and plants is not necessary or sometimes even desirable for the most pleasing effects. No one yet has been able to improve on nature's way of grouping trees, shrubs and plants. She makes attractive and beautiful groupings by the scattering of a few seeds here and there which produce the most delightful results, and we humans can only help her by thinning out the imperfect and undesirable trees and plants with an uneven, irregular planting as the result. Use nature's way as your guide.

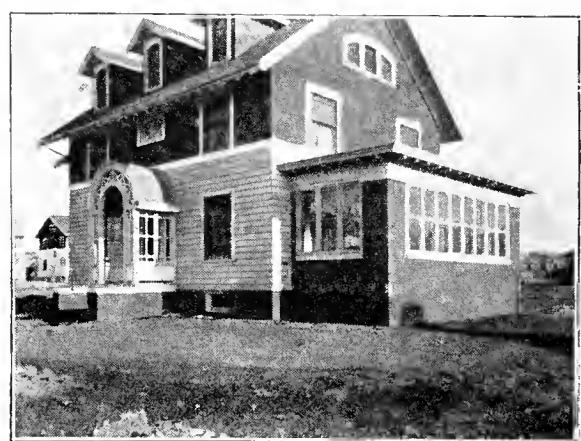
SUNNY AND SHADY LOCATIONS

Remember in choosing your plantings that some plants require sunshine; others prefer shade. The sunny varieties should have sun for about half of the day, at least, while the shaded varieties may not require more than two to five hours of direct sunlight. Watch the north side of your house during the summer months and you will note that the sun will shine very close to the foundation for a few hours each day as it rises north of east and sets north of west. Overhanging eaves that will not

allow plants to be watered by the rains should be taken into consideration or watering must be resorted to.

Residences fronting to all four sides of a block give varying exposures as to sunlight. The lists for shaded locations should be used for homes facing north. Use either the shaded or the sunny lists on the east and west fronts with sunny ones for the south exposures.

In all plantings for small or medium sized grounds the best landscape practice is group planting along lot lines for border effects and along the foundation of dwelling, leaving the lawn free to give an air space and depth and for easier care.

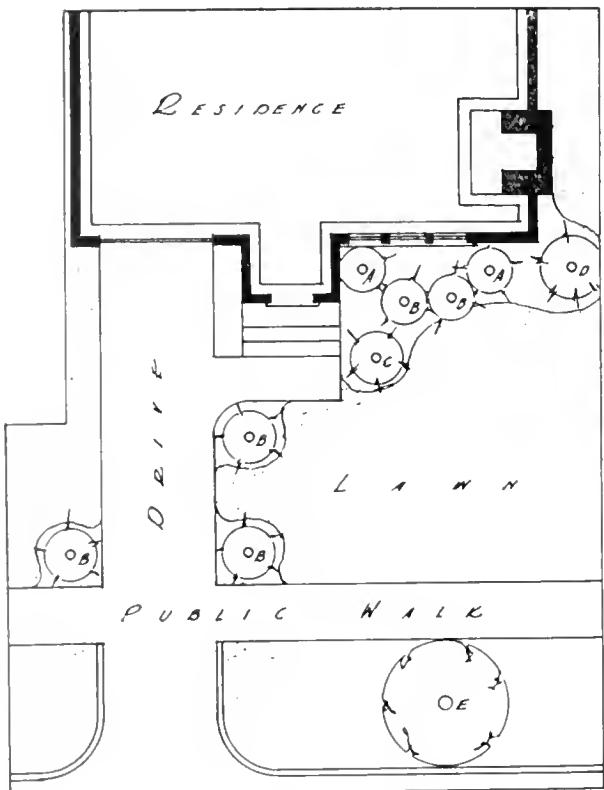
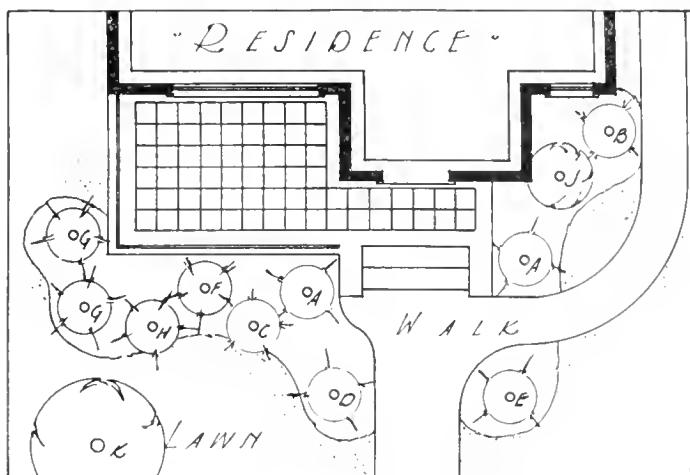


Before landscape planting.

Landscape Designs

PLANTING LIST

Key	Variety
A	Arbor Vitae, Pyramidal
B	Arbor Vitae, Siberian
C	Arbor Vitae, American
D	Juniper, Pfitzeriana
E	Juniper, Savin
F	Spruce, Black Hills
G	Spruce, Colorado Blue
H	Pine, Mugho
J	Rose, Hansa Rugosa
K	Maple, Norway



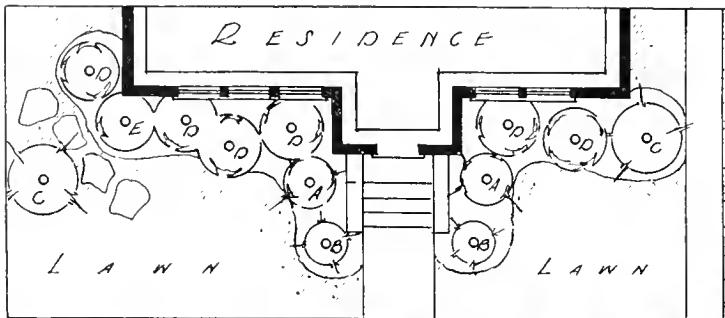
PLANTING LIST

Key	Variety
A	Juniper, Virginiana
B	Juniper, Pfitzeriana
C	Spruce, Black Hills
D	Spruce, Colorado Blue
E	Elm, Chinese



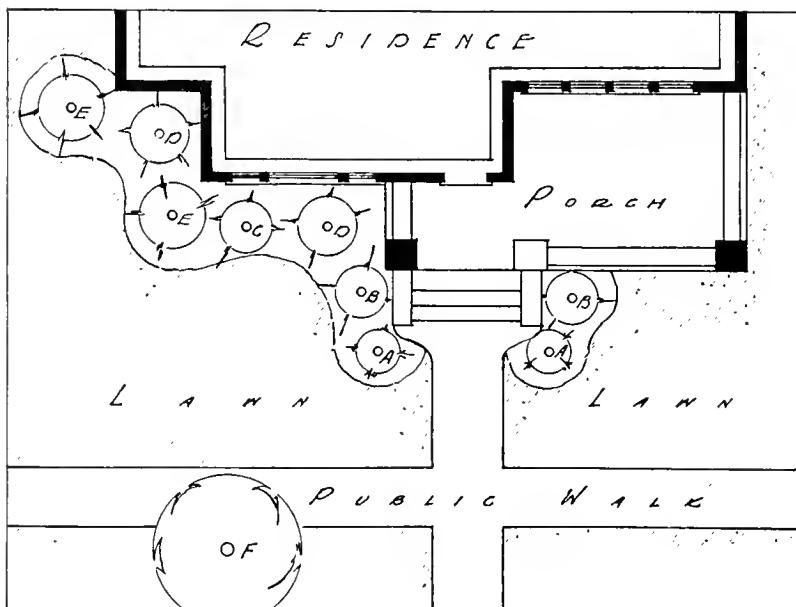
PLANTING LIST

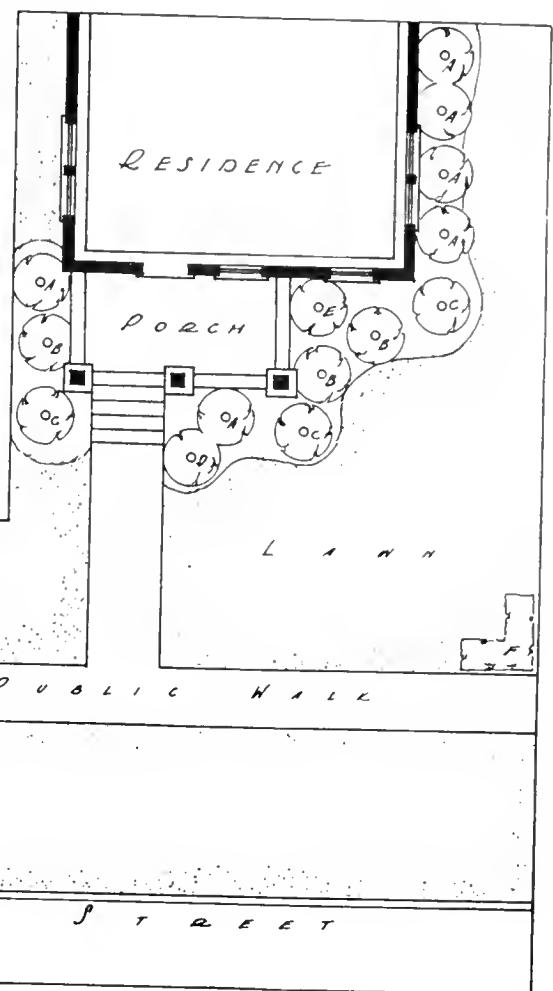
Key	Variety
A	Juniper, Virginiana
B	Juniper, Savin
C	Spruce, Black Hills
D	Spirea, Thunbergii
E	Sumac, Cut Leaf



PLANTING LIST

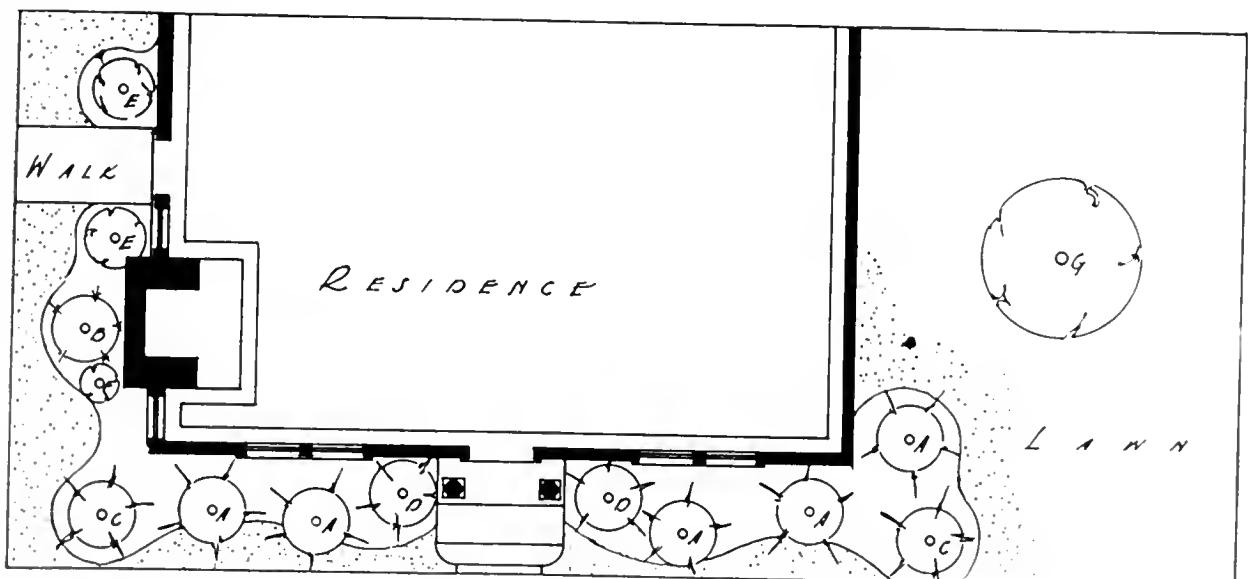
Key	Variety
A	Arbor Vitae, Globosa
B	Juniper, Virginiana
C	Juniper, Savin
D	Juniper, Pfitzer
E	Spruce, Black Hills
F	Elm, Chinese





PLANTING LIST

Key	Variety
A	Spirea, Van Houttei
B	Barberry, Thunbergii
C	Hydrangea P. G.
D	Spirea, Anthony Waterer
E	Rose, Hugonis Yellow
F	Currant, Alpine



(Photo and Planting List on Page 16)



(See Page 15 for Plan)

Suggestions for Perennial Plantings

In perennial plantings think of them in groups rather than as single plants.

It is well to bear in mind that such plantings, as a general rule, should be made by the grouping together of several plants of the same kind. In no other way can the desired effect be brought about. During your trips into the country, note how nature has grouped the wild perennials—a dash of yellow buttercups here, a group of wild asters by the roadside, or a clump of goldenrod in its golden mass, catching and holding the eye.

As examples in the arranging of perennial plants, we show in the following diagrams the proper spacing and suggested arrangement as in Plan No. 100.

PLANTING LIST

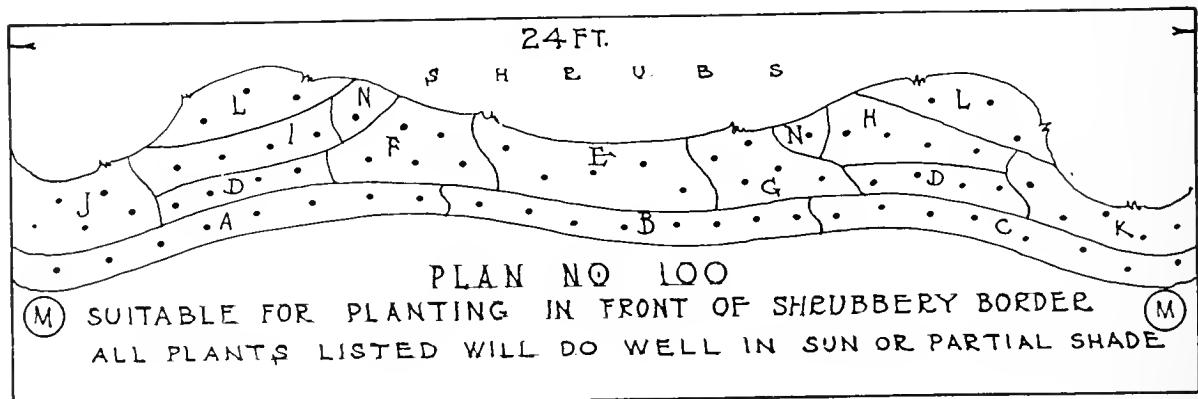
Key	Variety
A	Juniper, Pfitzeriana
B	Arbor Vitae, Globosa
C	Fir, Douglas
D	Spruce, Black Hills
E	Spirea, Thunbergii
F	Rose, Climbing
G	Ash, Mountain

Plan No. 101 may in many cases be desirable along a driveway.

Plan No. 102—Is a good suggestion of how a perennial planting may be worked out for a corner of the yard or a recess in the foundation arrangement.

Plan No. 103—A grouping of perennials with path between may be used to connect the flower garden with some main walk from the residence.

Plan No. 104—Narrow borders that may be arranged to meet varying conditions such as trim or margins for a flower garden, a dividing line between the lawn and vegetable or flower garden and the like.



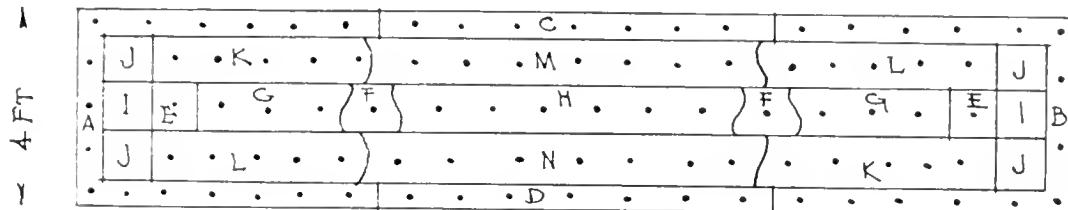
Planting List for Plan No. 100

Letter on Plan	Quantity	NAME
A	8	Sweet William (various)
B	8	Achillea (white)
C	8	Forget-me-not (blue)
D	8	Shasta Daisy (white)
E	5	Delphinium (Larkspur)
F	5	Iris (German) purple
G	5	Iris (German) yellow

Letter on Plan	Quantity	NAME
H	4	Coreopsis (yellow)
I	4	Platycodon (blue)
J	5	Phlox, R. P. Struthers (rosy-car.)
K	5	Phlox, Rhein'l'der (salmon-pink)
L	6	Hollyhocks (pink)
M	2	Yucca Filamentosa
N	2	Giant Daisy (white)

D R I V E

20 FT.



PLAN NO. 101.

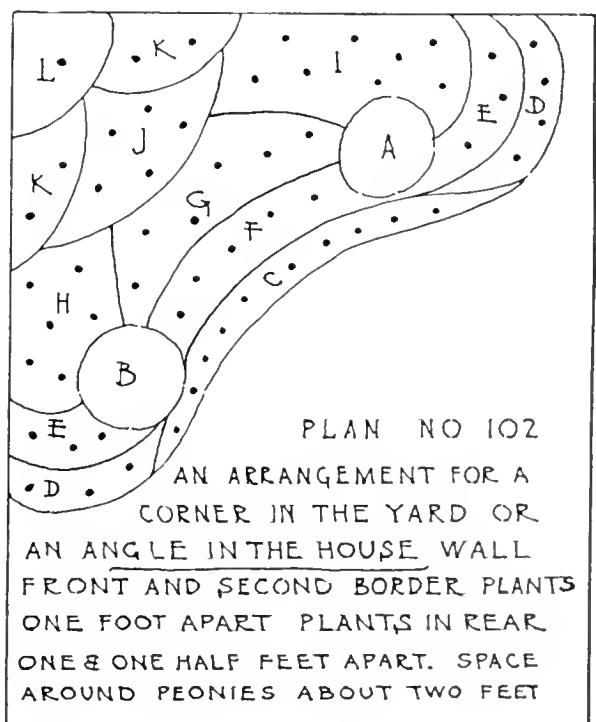
SUITABLE FOR BORDER ALONG DRIVE OR WALK.
THE PLAN MAY BE VARIED IN LENGTH AS REQUIRED.

Planting List for Plan No. 101

Letter on Plan	Quantity	NAME	Letter on Plan	Quantity	NAME
A	14	Forget-me-not (blue)	H	6	Hollyhocks (rosy-pink)
B	14	Sweet William (various)	I	2	Achillea (white)
C	7	Coreopsis (yellow)	J	4	Yucca Filamentosa
D	7	Columbine (yellow)	K	10	German Iris (purple)
E	2	Funkia (White Day Lily)	L	10	German Iris (yellow)
F	2	Tiger Lily (orange)	M	7	Phlox, Mrs. Jenkins (white)
G	6	Delphinium (Larkspur)	N	7	Phlox, Eliz. Campbell (pink)

Planting List for Plan No 102

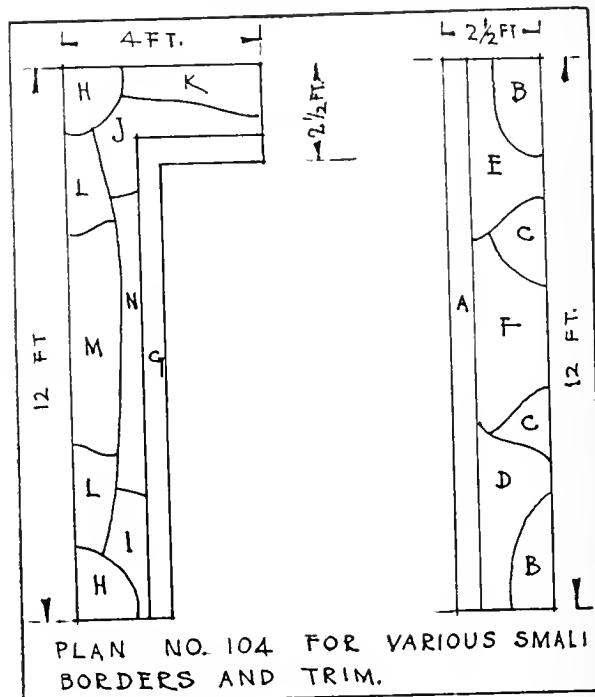
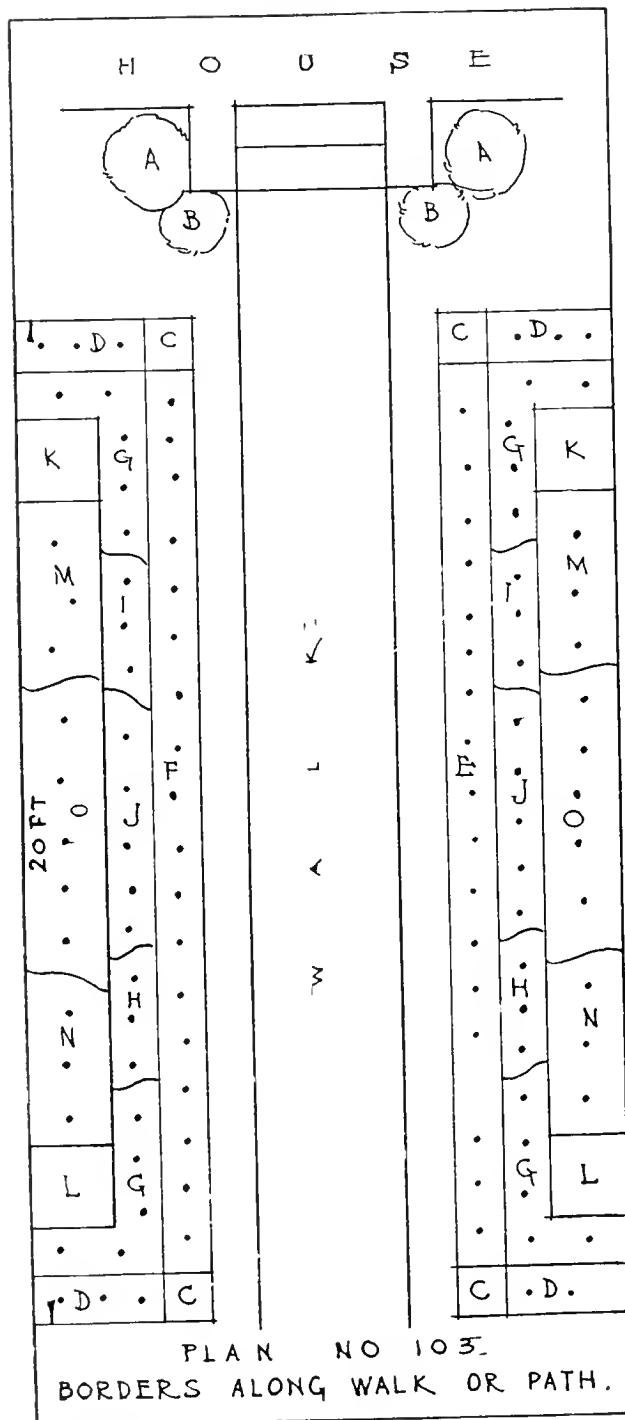
Letter on Plan	Quantity	NAME
A	1	Peony Festiva Maxima
B	1	Peony Humei
C	10	Iris, German (yellow)
D	8	Iris, German (purple)
E	6	Platycodon (blue)
F	5	Shasta Daisy (white)
G	6	Phlox, Chas. H. Mayo (white)
H	6	Phlox, Ryndstrom (pink)
I	8	Phlox, R. P. Struthers (rosy-car.)
J	5	Delphinium (Larkspur) blue
K	4	Hollyhocks (pink-rose)
L	1	Golden Glow (yellow)



Planting List for Plan No. 103

Letter on Plan	Quantity	NAME
A	2	Peony Reine Hortense (pink)
B	2	Funkia (white)
C	4	Regal Lily
D	12	Oriental Poppy
E	18	German Iris (purple)
F	18	German Iris (yellow)
G	20	Phlox, Elizabeth Campbell (pink)

Letter on Plan	Quantity	NAME
H	6	Aquilegia (Canadensis)
I	6	Aquilegia (Chrysanth)
J	10	Shasta Daisy (white)
K	2	Peony Avalanche (white)
L	2	Peony Baroness Sch'd'r (white)
M	6	Larkspur (blue)
N	6	Platycodon (blue)
O	10	Hollyhocks (rosy-pink)



Planting List for Plan No. 104

Letter on Plan	Quantity	NAME
A	12	Viola (purple)
B	2	Bleeding Heart (pink)
C	2	Giant Daisy (white)
D	5	Phlox Rheinlander (salmon)
E	5	Phlox E. Danzanvilliers (lilac)
F	5	Delphinium (blue)
G	12	Siberian Iris (yellow & purple)
H	2	Spirea Filipendula (white)
I	3	Gaillardia (orange red)
J	5	Coreopsis (yellow)
K	3	Salvia Azurea (blue)
L	4	Lemon Lily (yellow)
M	5	Hollyhocks (pink rose)
N	6	Shasta Daisy (white)

Salesman's Guide

Season for Planting

The proper season for planting trees should be determined by the condition of the trees to be planted. It is better that these trees be started a little. Trees that have burst their buds will do better than those planted when perfectly dormant. It matters but little if the trees in the locality where the stock is being set are in full leaf; if the trees that are being planted are not started to any great extent, they will be none the worse for having been planted a little late. As a rule, we have found that deciduous trees, as well as evergreens, do better if planted after the ground has begun to warm up. Frequently the time for planting corn is the best time for planting trees.

How to Handle Trees and Plants Upon Arrival

See that they are not exposed to sun or wind for any greater length of time than is absolutely necessary. Get them into their permanent location at the earliest possible moment. Do not unwrap them from the original package until you are ready to do this. If it is absolutely necessary for them to lay over a day or so after receiving, do not unwrap the package, but see that the roots are moistened and that they are kept in a cool, shady place. If you find the package in a frozen condition or if received during freezing weather, place the package in a cool place, a damp, cool cellar is preferred where it is just above freezing, and allow them to remain there before opening the package, for a sufficient time to remove all of the frost. If these directions are followed, freezing will not have injured your plants. The essential thing is to draw the frost out very slowly, the same as nature would do it in the spring.

Preparation of Trees and Plants for Planting

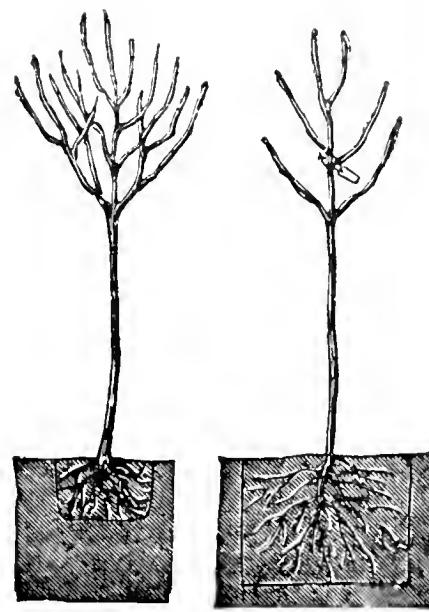
Generally speaking, all deciduous trees and plants (those that shed their leaves in the winter) should have the tops trimmed back about one-half of the last season's growth before planting. We know that the average planter hates to cut from six to twenty-four inches off from the top of a five- to six-foot fruit or shade tree when he transplants it. Thousands of trees are lost every year because this is not done. A tree that has been so trimmed will, in two years time, outstrip in size and height an untrimmed tree. We sometimes feel that we should require our customers to so trim their trees or forfeit the replace guarantee. Impress the necessity of this trimming upon your customers. Trees and plants are like humans, having only a limited amount of vitality, and we can help them to retain this vitality by lessening the amount of top which the roots have to support until they have established themselves.

All broken or badly damaged roots should be removed and the tips of all heavy roots should be cut back at least a half inch just before transplanting.

General Transplanting Directions

The important points in transplanting all trees and plants are, first; dig the hole to a size that will easily accommodate all of the roots of the plant without bending or crowding. Have the hole just deep enough so that the plant will set a little deeper than it did in the nursery. Place the plant in its location, sifting enough fine dirt in around the roots to cover them well. If large sized trees or plants, pack this earth firmly with the feet—if smaller sized plants, use the hands. Do not be afraid of packing the earth too firmly about the roots. Fill the hole with dirt to within two to four inches of the top with loose soil. If soil is reasonably dry, a pail of water should be added at this time and allowed to soak away, then fill the hole with loose fine dirt, but do not pack it. See that this top earth is kept loose or well mulched until the tree has a good start. Water sufficiently to soak the ground to the bottom of the roots once a week, if weather is dry. It matters not whether surface mulch is used to retain this moisture or whether the surface of the ground is stirred at frequent intervals of a few days, so that the soil is kept fine and loose.

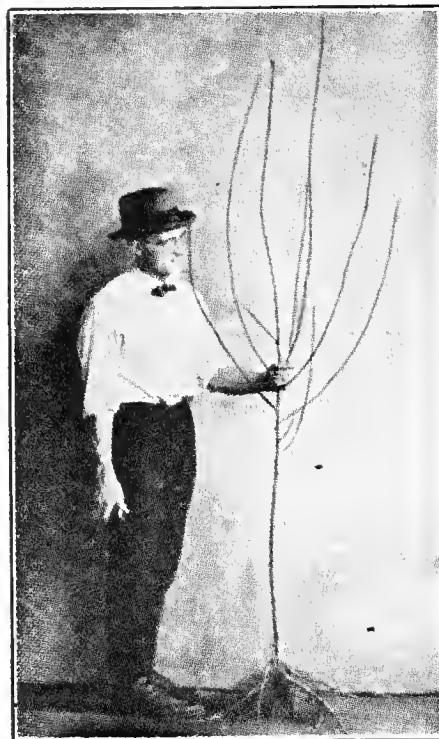
If trees are large and planted in exposed locations, such should be staked. If this is found necessary, the trunk should be wrapped at point of contact with stake or other fastening.



1

2

No. 1—The wrong way. No. 2—The right way to plant and trim a tree.



No. 1

PREPARING THE TREE FOR PLANTING

No. 1 is the tree as it comes from the nursery. To insure its growing and becoming a well shaped tree, it should be trimmed back as shown in picture No. 2 before planting. All bruised and injured roots should also be cut off.



No. 2

The Orchard

Varieties—Location—Soil—Protection—Etc.

The choosing of varieties for any particular section should be given considerable thought and attention. For a home orchard, several varieties maturing at different seasons should be selected, using largely such sorts as you know have proven their value in your immediate section. If it is to be a commercial orchard, either for local trade or for car lot shipments, limit the number of varieties to three or four, as the added cost of handling many different varieties is prohibitive. Often-times certain varieties are of value only in restricted areas, due to climatic and soil conditions and proximity to large bodies of water which temper the climate in spring and fall. Every one of our salesmen should make himself familiar with the varieties that are giving best results in his territory. One good source of information is the planters about you who have succeeded.

Where to Plant an Orchard—The most important thing in selecting the location is good, well drained soil. If high land of this nature is available it should be used. A northeast slope is preferable. Such a location is not as subject to late frosts that will kill the blossoms in the spring as is the lower land, and there is usually a circulation of air on the higher

locations which many times saves a fruit crop from late frosts, while on the lower ground or in spots which are known as "air pockets," where there is practically no circulation of the air, the entire crop will be ruined by frost. The ground on the north slope is also a little slower in thawing out, slightly retarding the blossoming period. Also soil on such slope is not as apt to heave with severe changes of temperature, thus not as apt to cause root injury.

Soils—A light, sandy soil or a very heavy clay soil with rock close to the surface are not considered very good orchard sites. A deep, sandy loam with a good, porous sub-soil is the ideal for orchard trees although many orchards have been reasonably successful with good care on some of the poorer soils. In short, any soil that will raise good farm crops will usually be found well adapted to orchard purposes.

The Preparation of the Soil—For fruit trees the soil should be well drained, either naturally or made so by tiling, as they will not live or thrive on a soil constantly saturated with stagnant moisture. It should also be well prepared. On new, fresh lands, manuring will be necessary; but on lands exhausted by crop-

ping, fertilizers must be applied, either by turning in heavy crops of clover, or well-decomposed manure or compost. To insure a good growth of fruit trees, land should be in as good condition as for a crop of corn or potatoes.

Cultivation and Mulching—After setting of the trees, one of two practices must be followed until trees have become well established; either thorough cultivation or mulching and seeding down with a cover crop. Thorough cultivation, we believe, is the best practice if rapid growth and early bearing are an object. Trees protected with mulching or by a cover crop, such as clover or other legumes, will not make as rapid growth as if given frequent cultivation. Where cultivation is practiced, it should be frequent enough to keep the top soil well pulverized and free from cracks so as to retain the moisture. Cultivation in the Middle West should be discontinued after the first to the tenth of July as late cultivation will tend to keep the trees growing so late in the season that the wood will not harden up and be prepared for severe winter conditions. Immediately after the last cultivation a cover crop for winter protection such as oats or rye should be sown. This will hold the snow and help to keep the ground from heaving. Intercropping or the use of small fruits, vegetables, or corn in the orchard the first few years may be practiced with satisfactory results if thorough cultivation is given. In such instances the tendency, however, is to take too much from the soil without returning a sufficient amount of fertilizer. Where clover or other legumes are planted in later years, such crops should be plowed under at least every third year, plowing as shallow as possible, thoroughly disking and reseeding the following spring. After orchard trees come into bearing, larger yields will be obtained on most soils by the use of barnyard manure spread under the trees to a depth of two to three inches. This should not be applied close to the body of the tree but well spread out under the branches. If left closer than two feet from the body of the tree, an excellent place is provided for rodents and insects, and injury by heating may also be caused to the body of the tree.

Pruning—The low branches on orchard trees should be encouraged, especially on the south side. A low branched tree is in every way to be preferred. The ground is shaded as well as the body of the tree; the fruit is more easily picked, and the limbs are not so liable to be broken by the wind. Eighteen inches from the ground is about the right distance for the lowest branches. For the home orchard, only such pruning should be given fruit trees as will allow a reasonable amount of light and sun into the trees when in full leaf so as to give good color to the fruit. Any branches that are crowding or rubbing should be removed, also any shoots (sometimes called suckers) coming up from the ground at the base of the tree. Pruning is an extensive subject (see also page 9) and when considered from the commercial orchard

standpoint, detailed information adapted to different varieties should be obtained from an authoritative source. We will be glad to put commercial orchard planters in touch with such information. Write the Horticultural Department of your State Agricultural College for bulletins on this subject.

Protection From Winds—Orchards in the prairie states should be protected from excessive wind. This will help to keep the soil from drying, will protect the trees against the heavy, cold winds in winter and the hot winds in summer. A crop of fruit at or near harvest has been saved in many an orchard by a good windbreak. Trees heavily laden with fruit are sometimes severely damaged when they do not have this protection. The windbreak for the orchard may be so arranged as to protect the buildings and stock on the farm.

Number of Trees Required per Acre—On account of ease in cultivation, spraying and care, most planters prefer setting trees in what is known as the rectangular system. See last paragraph on this page for number of trees or plants required for any given area.

How Far Apart to Plant—See page 22.

Spraying—See page 10 for spraying directions and formulas.

Directions for Wintering—When trees are delivered in the fall, for planting the following spring, select a dry place where water will be well drained off during the winter months; then dig a trench a little longer than the trees that are to be heeled-in, with the lower end about two feet deep. Dig the trench broad enough to contain the trees when spread in a single layer; then remove all packing material from about the trees and spread them out in the trench. When this is done, sift in fine dirt until all the open spaces are filled among the trees and roots and they are covered several inches deep, then tramp firmly and fill up the trench, mounding up the dirt so that the tops will be covered at least four inches deep and the roots about two feet. Care should be taken to remove all material from the trench and its vicinity which might serve as nests for mice.

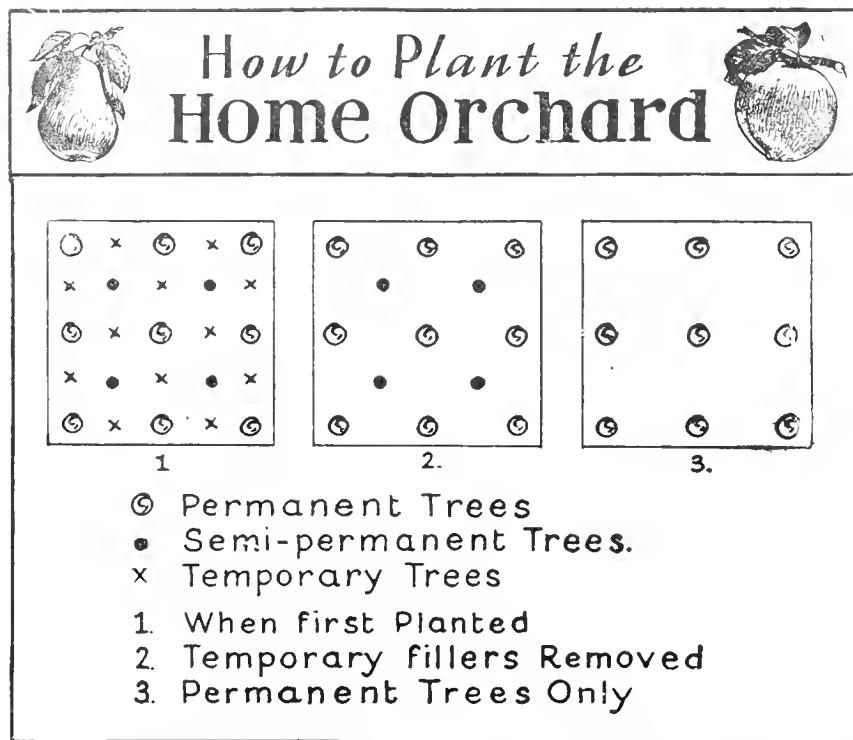
How to Find Number of Trees or Plants Required for an Acre—There are 43,560 square feet in an acre. Divide this amount by the number of square feet allowed for each plant. This may be ascertained by multiplying the distance between the plants in the row by the distance between the rows; for instance, grapes planted 8 feet apart in the row by 10 feet between the rows—8 times 10 equals 80, the number of square feet required for each plant. 43,560 divided by 80 equals 544, the number of grape vines required for an acre. If the plot of ground to be devoted to any given variety of fruit is less than an acre, multiply its length by its breadth and divide your result by the number of square feet required for each plant and your result will be the number of plants needed for that tract. A tract 209 feet on a side will equal an acre.

Suitable Distances for Planting

Apples	24 by 24 feet
Pears	18 to 20 "
Peaches	16 to 18 "
Cherries	15 to 18 "
Plums	16 to 20 "
Grapes	8 to 10 "
Hedges	12 to 18 inches
Currants	3 to 4 feet
Gooseberries	3 to 6 "
Raspberries, Red	3 by 4 "
Raspberries, Black	3 by 6 "
Blackberries and Dewberries....	3 by 6 "
Strawberries, rows	1 by 3½ "
Asparagus	1 by 1½ "
Rhubarb	3 by 6 "

To Destroy Mice, Etc.—The most effectual way of destroying these vermin is to poison them with strychnine. Dissolve an ounce of strychnine in five quarts of warm water. Then stir in four quarts of shelled corn. Let it soak for half an hour; then dry the corn thoroughly. This will keep indefinitely. Place a handful in the various places frequented by

the vermin. The corn should be kept in a can or tight box and plainly labeled "Poison." Another good way to poison rabbits is to put out sweet apples, cut in half, with a little arsenate of lead sprinkled on the cut surface. Cut the apple in two cross-wise, rub arsenate on the cut surface, put sticks into the ground in the runways and about a foot high, stick the apple onto the stick, cut surface down. Burlap wrapping is also an effectual protection against the "cottontails." Mice do not move far in winter and so do their damage where given a place to harbor. For this reason mulching around trees, if it contains straw or other nesting material, should be removed for a foot from the tree, and a little earth mounded around the base; if place is badly infested, pack the snow around tree so they cannot harbor under the crust. When roses, peonies, and other tender and valuable shrubbery are covered for winter, it is well to scatter poisoned corn among them. Look your place over frequently during the winter and when you notice the work of the little marauders, go after them with the poison.



The modern orchard is usually planted in a mixture of two or three varieties of fruits. There are good reasons for this. Some of the most desirable fruit trees do not come to bear for several years but eventually make large trees and are very long lived. Others are not long lived nor of large growing habit, but bear very young.

In making up the orchard plot we classify the more important trees as "permanent," "semi-permanent," and "temporary." The first named are the long lived but late to bear trees, the second are the medium long lived, early bearing trees, and the "temporary" trees are th very early to bear but short lived trees.

The general plan of planting is this: Per-

manent trees are spotted forty feet apart in squares. In the centers of these squares also forty feet apart, are the semi-permanent, or if none of these are used, the temporary trees. Finally, at a point midway between every pair of permanent trees, temporary trees are planted.

The temporary trees come into bearing very early and the orchard thereby begins to make immediate returns to the owner. Later, when the semi-permanent are bearing and need more room, the temporary trees are cut down. Still later, when the permanent trees are fully developed and bearing, the semi-permanent trees are cut out and the orchard continues to bear at full capacity with no time lost. Altogether this is a very satisfactory arrangement.

Fruits

Fruits are one of the most healthful and popular foods available to mankind. Almost everybody likes fruits. Doctors and scientists have found out that fruits contain many valuable vitamins that are necessary to health. Fresh fruits are especially rich in health value.

Every home should have a few fruit trees and berry bushes. They are easily cared for and, in addition to producing luscious fruit, the foliage is ornamental and works into any landscape design.

Don't fail to include fruit when you plant your home grounds.

PLANTING FRUIT TREES

All fruit trees should be planted just like other deciduous trees. The tops should be trimmed back and branches left low on the trunk to make picking easy. Care should be taken to get the hole large enough to take all the roots without cramping. Put fine

black dirt next to the roots and water well.

Any good, well drained soil is suitable for fruit trees. If a high spot of land is available it is good, and if there is a northern slope, that is better yet, for it means the early spring growth will be retarded so the blossoms will not be caught by a late frost.

It is customary to plant apples and other fruit trees from 16 to 24 feet apart.

After the trees are set they should be cultivated throughout the season, or else a cover crop such as buckwheat should be planted at once. Trees in the middle west should not be cultivated after the middle of August, so growth will stop and the wood will harden before freezing weather.

If you are planning an orchard we would advise you to write to your state experiment station for bulletins on orchard growing. There is much to be said on this subject and we cannot deal satisfactorily with it here.

Apples

No garden is complete without apple trees. No other fruit can take the place of good apples as food. Growing children as well as grown ups need plenty of fruit. The apple with its abundance of vitamins is ideal for satisfying that craving for something to eat between meals. "An apple a day keeps the doctor away."

The apple is the staple fruit of the United States as it can be grown over almost the entire area of our country. The long keeping quality of the apple makes it possible with modern cold storage methods to extend the apple season to cover every month in the year.

There is nothing monotonous about apples. You can grow them in all sizes, flavors and colors, hard and soft, red, green and yellow. The apple can be used in more ways than any other fruit. You can bake it and boil it, roast it and fry it, serve it with meats or preserve it or jam it, or pickle it—there is no end to the uses to which you can put it.

The varieties we list here are staple, dependable varieties that have been carefully selected for general desirability and especially for their hardiness. Any of these varieties can be expected to grow and bear well under average conditions.

Summer Varieties

ANOKA—A wonderful new apple which generally commences to bear the next year after planting. Extremely hardy and productive. Many trees have borne fruit in the nursery rows at age of 16 months. Fruit large, yellow streaked with red. Resembles Duchess. Excellent flavor. Ripens in August but may be used for a month before ripe.

DUCHESS—A large beautiful apple; roundish, streaked red and yellow; tender, juicy and pleasant. A kitchen apple of best quality, and esteemed by many for dessert. Tree very hardy, a fair grower, and a young and abundant bearer. Season, July to September.

SUMMER PEAR—Having stood a most severe test of over thirty-three years, always doing credit to itself, we take pleasure in offering this delicious apple to our patrons. As hardy as the Duchess of Oldenburg; a heavy and

early bearer; fine-grained, with a distinct pear flavor. Season, August.

TETOFSKY Medium size, yellow ground, handsomely striped with red, and covered with a whitish bloom; juicy, sprightly acid and agreeable. A stocky grower; very hardy and productive. July and August.

YELLOW TRANSPARENT—Tree introduced from Russia by the United States Department of Agriculture. A good grower and an annual bearer; hardy, but in some sections subject to blight. Fruit medium in size, roundish conical in form; skin smooth, transparent, surface clear white becoming pale yellow when matured; flesh white, tender, fine-grained, juicy and subacid. This is one of the best of our early summer apples, and is recommended to those seeking an early variety.

Autumn Varieties

ANISIM—This, without doubt, is the most valuable of Russian apples. Tree bears very young and regularly enormous crops of beautiful fruit; is hardy, free from blight, of good quality. Fruit roundish, medium size, color greenish yellow, covered almost wholly with a heavy dark crimson bloom, thickly dotted with minute white specks; flesh greenish white, with green veins; flavor subacid, pleasant. Season, early fall. The Anisim is a variety which has perhaps been better known as "Good Peasant." The tree is wonderfully productive and bears very young.

EASTMAN—A seedling of the Fameuse, or Snow, decidedly more hardy than its parent, in fact, in hardiness it can favorably be compared with Wealthy. It is now bearing 150 miles north and south, and 300 miles east and west of here, and in all cases has received the highest praise from those fruiting it. As a market fruit, it fills a place where such an apple is in great demand, namely, just after the early and just previous to the late ones. Fruit large, fine colored, striped with red, hangs well to the tree; agreeably acid; very young, constant and heavy bearer. An excellent dessert and cooking apple; we unhesitatingly recommend it. Season, October to December.

FAMEUSE, or SNOW—A medium grower, rather spreading as an orchard tree; medium

hardy, injuring badly in some sections, but has plenty of vitality, and will stand and bear many years after being badly injured. Fruit dark red, with flesh snow-white; one of the finest dessert apples. Season, from November to January.

IOWA BEAUTY—A seedling of Golden Russet. Tree a strong vigorous grower, very hardy, and more beautiful in form than Whitney No. 20. Fruit nearly white, splashed and striped with red. This apple is steadily growing in favor. August to October.

SNOW—(See Fameuse.)

WEALTHY—Originated near St. Paul Minn. A vigorous-growing tree, very hardy and an abundant bearer. Fruit large, nearly red, subacid and of first quality. G. W. Wheaton, one of the oldest fruit-growers in Northern Iowa, said of this tree that if he were to plant a market orchard of 1,000 trees, he would plant 999 Wealthy, and when asked what the other would be, he said he would plant that Wealthy also. All things considered, it is a hard tree to beat. Season, early winter.

WOLF RIVER—A large, showy red apple of Wisconsin origin; a remarkably good market apple in some sections, but not quite hardy in Northern Iowa, except in favorable locations. October to December.

Winter Varieties

AMES—An excellent, strong-growing tree. Healthy, vigorous and productive. Introduced by Iowa State College at Ames, Iowa. Well adapted for planting in the Northwest. Extremely hardy, of high quality and abundant bearers. Fruit medium size, deep red color. Flesh firm, yellow, crisp and juicy. Season: January to May.

BLUE PEARMAIN—"The Jonathan of the North." Extremely hardy. Very productive. Originated by the late C. G. Patten. Resembles Jonathan in shape, size and quality but is better adapted to planting throughout the Northwest. Fruit medium size, red with bluish cast. Season: November to February.

BRILLIANT—This is a splendid late keeping apple. Equal to the Wealthy in size and bearing qualities but hardier in growth and better in color. Its brilliant color and high flavor makes it in great demand in the apple markets where it has sold for \$7.00 per barrel when such apples as Grimes' Golden and Tolman Sweet were being offered for \$4.50. Flesh fine grained, white and tender. The fruit hangs late on the trees. Season January to May.

DELICIOUS—The peer of all apples. Its fruit ranges in size from large to very large. It is conspicuous always because of the prominence of the five knobs or bumps at the blossom end, and the lovely red stripes and splashes that decorate the skin in a most pleasing and appealing way. There is something about the size, shape and coloring of this apple that makes a strong appeal to everyone. In addition it has a pronounced and delightful aroma and tender, juicy, creamy flesh of exquisite flavor. Delicious is all that its name implies. The tree is an excellent grower, productive and disease resistant. Delicious is an apple that should be in every home orchard, and it is doubtful if any other kind will make more money for the commercial grower in sections where it is particularly adapted, but this would not be true in the North. Not adapted for general planting north of Central Iowa, except in favored locations.

GANO—Originated in Missouri. Similar but superior to Ben Davis. It has all the good qualities in a higher degree, more brilliant coloring, runs more even in size and keeps fully as late. The tree is vigorous and hardy;

is a rapid grower; bears while young; color bright red, without stripes or blotches and large and even in size. February to May.

GOLDEN RUSSET—Medium size; dull russet, with a tinge of red on the exposed side; flesh greenish, crisp, juicy and highly flavored; a slender grower, with light-colored speckled shoots, by which it is easily known; hardy, and is extensively grown in Western New York and Wisconsin. November to April.

GRIMES' GOLDEN—Tree vigorous, upright, spreading, and a good annual bearer. It is considered the standard of excellence throughout the West. Fruit medium size, regular, waxy golden yellow in color, flesh yellow, firm, compact, crisp, spicy, quality of the very best. December to March.

HARALSON—An early bearing variety; tree of medium size, vigorous, upright, hardy. Fruit medium to large in size, roundish, slightly flattened, well colored with solid red over entire surface. Flesh fine grained, tender, juicy; excellent quality. Keeps in common storage until early spring.

HAWKEYE GREENING—A wonderful Greening apple. Introduced by Iowa State College. Tree is of spreading habit, forms an abundance of fruit spurs, has good, large foliage, and bears abundantly. Fruit large, clear-skinned yellow or greenish-yellow, often having a pinkish blush. Excellent keeper.

JONATHAN—This variety is probably better known to average consumers of dessert apples than any other variety. It is recognized on all markets of the country as one of the best among the few leaders of high quality eating apples. The fact that its qualities and flavor are also superior and outstanding when used for culinary purposes adds to its popularity. The fruit is medium size, red and beautiful. The tree is slightly slow of growth when young, but grows stronger as it attains age. It bears young and abundantly. It is quite hardy and thrives in all of the Central West except in the drier portions of the northwest part. Season November to February. Would not recommend this north of Iowa.

KING DAVID—This is a red apple of striking appearance, being colored somewhat like Jonathan but with darker red in deeply colored specimens. The fruit is of very snappy flavor. Productive.

McINTOSH RED—This apple is adapted to a wide range of localities, having been first raised in Canada, but now being successfully

raised all over the North and Northwest. The fruit is very attractive in appearance, of a bright deep red color, blottedched and streaked with white and of good size. The flesh is very tender, perfumed and delicious. The tree is a vigorous grower and very hardy. Season, October to late winter. The fruit demands the highest price of any of the commercial sorts.

MALINDA—A very hardy variety, and popular in the colder parts of the Northwest. Skin rich yellow with dull red blush. Juicy, mild, subacid.

MONONA—Very hardy and productive. Introduced by Iowa State College. Fruit hangs well on tree until mature. Large size, attractive red color and good quality fruit. Flesh tender, medium grain, smooth, juicy. Season: October to January.

NEWELL'S WINTER—Originated in Wisconsin about 60 miles north of Madison. It is a seedling of the Perry Russet. The fruit is large, roundish oblate, and of a rich yellow color; flesh firm, juicy, yellowish, rich, sprightly and subacid. This apple is one that will rate A No. 1 with any of the Eastern apples. It is a fruit that will keep all winter. Tree hardy and free from blight.

NORTHWESTERN GREENING—Origin, Wisconsin. Season, December to June. Tree a splendid, vigorous grower. Fruit large to very large; green, becoming yellowish green when ripe; flesh yellow, firm; flavor a good subacid; very smooth and attractive.

PATTEN'S GREENING—This variety originated from seed of the Duchess of Oldenburg. As a nursery tree it grows very crooked, but makes a fine spreading orchard tree; it is a better bearer than the Duchess and quite as hardy; fruit about the same shape and much larger, but green in color; a fair eating and an excellent cooking apple. Season, November to January.

SHARON—Superior to old standard winter apples for the Northwest territory. Introduced by Iowa State College at Ames. Fruit hangs well on tree until fully matured, medium size, uniform, attractively striped with red over yellow. Has rich, pleasing, aromatic flavor. Keeps well in storage until March.

SALOME—A vigorous, upright grower in the nursery; in the orchard it becomes large, fruit uniform in size and shape. Flesh firm, crisp, tender and juicy. Season, November to March.

SILAS WILSON—A seedling of the Jonathan originated by the late C. G. Patten. It resembles the Jonathan in shape, size and color, but is much hardier, coming through 40 degrees below zero without injuring. A good bearer, fruit hangs well on the tree. A splendid keeper.

TOLMAN SWEET—Medium, pale whitish yellow; flesh white, fine grained; very hardy and productive. The best winter sweet apple for home and market. November to March.

UNIVERSITY—Originated in 1881, a seedling of Perry Russet and as large as Patten's Greening. A rich golden yellow when ripe. Has been highly recommended by leading horticulturists in Minnesota. Absolutely hardy; a young, constant and prolific bearer. Tree a beautiful spreading grower; one of the most magnificent of the apple trees. October to January.

WINESAP—An old variety, supposed to have originated in New Jersey. Tree moderately vigorous, with rather open spreading habit, very productive and an early bearer. Fruit

rather above the medium size, rich yellow color, mostly covered with fine lively dark red, sometimes slightly striped; flesh yellow, firm, fine grained, rich subacid. This variety is very popular throughout the South and West, but is not hardy enough for this latitude, except in sheltered situations, where it is protected from extremes of weather. Season, December to May.

SPECIAL—(One Tree Apple Orchard). Five different kinds of apples on one tree. Is an ideal tree for the city man with limited planting space. The four best varieties originated by the late C. G. Patten—Summer Pear, Eastman, Silas Wilson, and Brilliant—are bud-grafted on University, an extra hardy and thrifty tree, making the fifth variety. These trees have had tops trimmed back at grafting or budding point and therefore will look as though roughly trimmed when received at delivery time. Develop into beautiful, shapely trees. These trees are not a new, untried experiment. They are a success. We have been growing the World's famous "Five-in-One-Apple" or the One Tree Apple Orchard since 1914.

Crab Apples

Crab apples are rather small in size, but are fine in appearance and are very valuable for making jellies, sweet pickles, preserves and cider. All the varieties named below are extremely hardy and will do well in practically all sections.

DOLGO CRAB—The Perfect Crab. Bears young and very heavily. Fruit is real bright red, coming in clusters. Makes the finest flavored and prettiest red jelly. It hangs to the trees for weeks and will still make jelly. One of the most beautiful of all fruit trees. In the spring it is just full of large pink flowers, and then the fruit hanging in clusters, all over the tree, turns brilliant red. Makes a beautiful ornamental tree. Has won high favor with our customers.

HOPA (Red Flowering Crab)—A beautiful ornamental tree for the front lawn on account of its profusion of deep rose crimson blossoms. When in bloom it presents a striking sight. The fruit is rather small, about an inch in diameter and bright red, borne in clusters, making it a thing of beauty. The fruit is not likely to be disturbed by boys as it is rather bitter, but makes a bright colored, highly flavored jelly. Perfectly hardy.

HYSLOP—A very late-keeping, dark red Crab of large size; tree an abundant bearer, vigorous grower and perfectly hardy. Season, November to April.

MINNESOTA—Season, October to January. One of the most desirable. Fruit large, light yellow, often splashed or mottled with blush

on sunny side when allowed to fully ripen; flesh creamy white, fine grained, juicy; mild subacid, aromatic.

SOULARD—This is supposed to be a hybrid with our native wild Crab, *Pyrus Coronaria*, or possibly a sport from the wild Crab. It is about the size of Fameuse or Snow Apple. Light yellowish green in color and keeps until spring. Its chief value is for preserves, and it is valued by many as highly as the quince for this purpose. The tree is a strong, vigorous grower, and very hardy. Bears well.

STRAWBERRY—Fruit medium, highly colored, exceedingly tender, mild acid, fine eating or cooking; tree hardy, fine grower.

SWEET RUSSET—Very large hybrid; extremely hardy. Fruit oblong, conical, light russet, very rich and sweet. One of the best either for eating or cooking. August and September.

TRANSCENDENT—A vigorous grower and abundant bearer, but blights badly. Fruit medium size. Season, early August.

WHITNEY NO. 20—A beautiful upright growing tree, and one which bears young and abundantly. Fruit of good size, conical in shape, red and yellow striped; flesh crisp, subacid, and very fine eating; no Crab taste whatever. It is really a small apple and should be classed as such. Season, September.

YELLOW SIBERIAN—Size, medium to small, good quality; tree hardy. Good for pickling.

Plums

There are three principal types of plums, named after their native lands—American, European and Japanese.

Many of the plums suited for the Middlewest are "Hybrids," that is a cross between two or more of the principal varieties, generally combining the hardiness and vigor of the American type with the size and quality of the European or the Japanese.

There is no class of fruit that is more productive than the plum. In fact, the tendency in many varieties is to overbear, and unless judicious thinning is practiced the fruits will sometimes be small. Heavy pruning also tends to reduce the overbearing of small sized fruit.

Our plums are all grafted on the roots of seedlings of wild plums that we have raised from plum pits gathered in the north. Using this hardy stock makes our plum trees extremely hardy. The common practice, especially in the East and South, is to graft plums on peach roots or on wild plum roots from France. Such roots, of course, are tender and will not stand the severe cold of our winters.

We are listing here only the varieties that have been found to be of value in the Middlewest.

CULTURE

The enemy of plum trees that gives the most trouble and is the most common is *Aphis* or plant lice. These insects attack the tender new leaves at the tip of the twigs as soon as they appear, particularly the first spring after the tree is planted (after the trees are established, the *Aphis* gives little trouble). *Aphis* are easily controlled by spraying the trees with Black Leaf 40, using a little hand sprayer. (See directions for mixing Black Leaf 40, Spraying Calendar on page 10.)

In planting plum trees it is important that they be planted in groups, a plum tree planted all by itself seldom does well as some sorts do not fertilize their own blossoms and require pollen from nearby trees to make them fruitful.

ELLIOTT—A large, high-quality, late plum of pleasant flavor. Stands up well after harvest. Good commercial variety. Hardy, vigorous and regularly productive. Fruit large, nearly round, red. Flesh yellow, firm, tender and juicy. Nearly freestone. Very good quality. Season: late.

FIEBING PRIZE—A new big Red Minnesota variety. This delicious plum was given the high award of the Fiebing Prize at the Minnesota State Fair in 1930. Fruit ripens early, is extremely large, firm flesh, excellent flavor and beautiful red color. Surpasses the Loring Prize in quality. Fully equal to the California plums in size and quality.

GOLDEN ROD—A distinct departure from the usual type of red plum. Introduced by Minnesota State Breeding Farm. Fruit clear yellow, large size, very attractive. Good com-

mercial variety because of its contrast to other plums, its firmness and good shipping qualities.

HANSKA (Hybrid)—This is a cross between the native plum and the fine, fragrant Apricot Plum of China. The fruit is splendid for eating out of the hand, and when cooked retains the apricot flavor. The fruit is about $1\frac{1}{2}$ inches in diameter. The color of the fruit when ripe is bright red, with a heavy blue bloom; flesh firm, yellow, good quality and very fragrant. It begins to bear the second year and ripens the first week in September. Its value for preserves will make it popular and desirable everywhere.

KAHNTA (Hybrid)—A cross between Burbank's Apple Plum and the Terry. It is a good fruit and hardy throughout the North. Fruit large, $1\frac{3}{4}$ to 2 inches in diameter; color red, flesh firm, with small pit, and delicious flavor.

LORING PRIZE (Hybrid)—This is a splendid fruit, good for canning, delicious to eat, has a small pit, is of a bright, attractive color. The seed was the Burbank crossed with the DeSoto or Weaver Plum. The size is from $1\frac{3}{4}$ to $2\frac{3}{4}$ inches in diameter. It is slightly oblong, of bright color, fleshy like the Burbank and nearly freestone, delicious in sweetness and mild in acidity. Superior to the large red California Plum that we see in the fruit stores.

MONITOR—A hardy, vigorous and productive variety. Introduced by Minnesota Station. Fruit very large, averaging $1\frac{3}{4}$ inches in diameter. Color dark red, flesh tender, sweet, juicy but firm. Good quality. A plum for the home, the market and the children. Late mid-season.

PATTEN PLUM (American)—One of the largest and best of all the hardy American Plums. It was originated by C. G. Patten and later named by the Iowa Agricultural Experiment Station. The original tree, though twenty years or more old, is still productive and in good condition. The Patten Plum is one of the hardest among American Plums, healthy, of good spreading habit, sets up a well distributed load of fruit and is not prone to overloading, a fault so generally found with many other American varieties. The Patten blooms a week later than the Japan Hybrids and later than most of the American Plums, thus generally escaping late frosts. The fruit is uniformly large, roundish, bright red with bluish bloom, firm of flesh, yet tender, very juicy, becoming rich, sweet, sub-acid if ripened on the tree. Season, mid-September. The Patten Plum does not have a rival for planting in Northern Iowa and north.

PATTEN XX PLUM (American)—Here is another fine plum, worthy of a place in every

orehard. Unusually productive, with fruit of medium size, roundish, bright to deep red with bluish bloom. The flesh is yellow, juicy, sweet and very good quality. Season, about September 1.

RED WING—A regular bearer. Minnesota introduction. Fruit large and firm. Color yellow overspread with red. Stone small and entirely free. Sweet, of high quality. May be eaten with sugar and cream like the peach. Ripens latter part of August. Excellent for shipping and cooking.

SURPRISE (American)—A variety introduced at Sleepy Eye, Minnesota. Tree a beautiful, symmetrical grower, with fine foliage; meaty, fine flavor, very large and red, with many light dots on the skin, hangs well to the tree, a good bearer and a good keeper; fine for culinary purposes.

UNDERWOOD—Very vigorous and productive. Originated at the Minnesota Experiment Station. Bears extremely early, and extends over a long season—a point of value for home use. Fruit large, round-conic. Color rich red. Flesh golden-yellow, tender, juicy, sweet and of very good quality.

WANETA (Hybrid)—This magnificent plum, originated by Prof. N. E. Hansen, gives to northern fruit growers an opportunity to compete with California in the production of large, finely flavored and colored plums for market. The tree is a very fast grower, producing the largest and what is believed to be the best of the Hansen Hybrids. That means that it is the best in tree and in fruitfulness of any plum grown at this time in this part of the country. The fruit of Waneta often is as much as 2 inches in diameter; bright red in color; of delicious quality; a long keeper and splendid shipper.

Plum-Cherry Hybrids

These varieties are crosses between the wild sand cherry of the west and some standard plums. Many of them have been introduced by Prof. N. E. Hansen of the South Dakota state experiment station.

The trees generally show their sand cherry origin by early bearing and rather dwarfish growth. All are tremendous bearers of good size to large fruit. It is not uncommon for plum cherry hybrids to bear fruit the first year out. They are all absolutely hardy. They have a tendency to fungous growth and should be sprayed just before the blossoms open. (See spray calendar on page 10.)

COMPASS—Originated in Minnesota. A cross between the Miner Plum and the Sand Cherry. Fruit a little larger than a medium cherry; color red; round; skin moderately thick; flesh, firm, juicy, coarse; stone medium; flavor sub-acid; quality good; good bearer; very hardy; leaves resemble the Sand Cherry, as does the twig and the color of the bark. It is at present being widely distributed by the nurserymen. Of value in sections of the Northwest. Plum type in general appearance, but in quality of fruit resembles the cherry. Season, July.

OPATA—One year trees set fruit buds freely. Heavy trees transplanted will bear the next year. This variety is a cross between the Sand Cherry and the Gold Plum, a very large plum for which \$3,000 was paid when first introduced. The tree resembles the plum in habit of growth. The fruit is 1 inch or more in diameter; small pit. It is a dark purplish red, with blue bloom; flesh is green and firm; flavor pleasant, partaking of the rich sweetness of the Gold Plum. It is excellent for eating out of the hand, as well as for table

and cooking purposes. Ripens as early as the first week in August. This is greatly in its favor, as at that season there is very little fruit of any kind. Tree hardy and a great bearer, making it popular wherever planted.

SAPA—Introduced in 1908. Fruit has a glossy, dark purple, thin skin; rich, dark purple flesh of the Sultan Plum. On account of its fine flavor and rich coloring, Sapa has headed the list of Hansen Hybrid Plums in popularity. Makes the most delicious, rich, sweet, deep wine colored sauce. It is a wonderfully early and prolific bearer, the fruit being set along the branches as thickly as gooseberries. The trees often bear in the nursery rows, and three year trees have produced as much as a bushel of fruit to the tree. Tree is spreading and handsome in appearance.

SANSOTA—Resembles the Sapa both in tree and fruit. The size of the fruit is about 1 1/2 inches in diameter. Coloring shining black when fully ripe, with heavy bloom; flesh clingy; yellowish green; slightly, pleasant; skin thin and free from acerbity; pit small.

ZUMBRO CHERRY—Originated in Minnesota. This variety is extremely hardy and suitable for planting where other varieties of cherries will not thrive. This plum-cherry ripens in August. Fruit is borne on the previous year's wood; color, very dark, nearly black when ripe; flesh firm, sometimes tinged with red when fully mature, especially recommended for sauce and preserves. The tree is a low grower and rather on the dwarf order. This adapts it for planting in small corners of your garden or orchard. It has early bearing and extremely productive habits. Trees set out in the spring bear heavy crops the following year.

Cherries

No fruit hardy in the middle west is receiving more attention at this time than the sour cherry. In some parts of Wisconsin growers have had returns of from \$800.00 to \$1,000.00 an acre. Cherry trees bear young when properly cared for. It is not uncommon for an orchard three years after planting to yield enough fruit to pay for the cost of the trees, planting and cultivating up to that time. The cherry is the ideal tree for planting in the door-yard. It is free from insect pests to a greater degree than any other fruit tree and when in bloom is one of the most beautiful of all trees. We list only those that we have found of exceptional value in quality and hardiness. Sweet cherries, as a rule, should not be planted north of Des Moines, Iowa.

BLACK TARTARIAN—A sweet cherry. Very large, bright purple, glossy black; juicy, rich and fine. Tree a rapid, vigorous upright grower and a great bearer. Very popular. Ripens last of June and early July.

COMPASS CHERRY—(See Plum Cherry Hybrids, page 28.)

EARLY RICHMOND—The standard early red sour cherry. Fruit bright red, very juicy, snappy flavor; relished for home or market. As a pie cherry, Early Richmond and Montmorency are preferred by canning factories everywhere. In tree, Early Richmond grows large, and is hardy in wood and bud; producing abundantly. An ideal variety for home or market.

LARGE MONTMORENCY—The best mid-season cherry, and of large commercial importance. Its fruits are large, deep cherry red, very tender and juicy. It ripens at the close of the Early Richmond season, and is of better size than that variety; more meaty and of richer flavor. It is a favorite of children; an excellent shipper and in big demand by canning factories. The tree grows more erect than the Early Richmond and is very productive.

ZUMBRO CHERRY—(See Plum Cherry Hybrids, page 28.)

Pears

The melting, juicy texture, the refined flavor and the delicate aroma of the pear give it high rank among fruits.

One of the most important facts to remember about pears is that their flavor and juiciness may be improved if they are gathered ten days or two weeks before they are ripe and ripened indoors. Summer pears should be gathered at least ten days before they are ripe and autumn pears at least two weeks. Winter varieties may hang until the leaves begin to fall, then should be placed in a cool place to ripen.

The Patten pear is the only pear in the list below that we can safely recommend as being hardy enough to plant north of Charles City.

PEAR CULTURE

The directions for caring for Apple orchards will in general answer for Pears also. We do not recommend the planting of Pears north of Northern Iowa with the exception of the Patten Pear which may be safely planted as far north as the latitude of St. Paul, Minn. Pears do best on well drained clay soil. We list below only the few varieties that have proven of value in the northern part of the Mississippi Valley.

BARTLETT—This pear is more extensively grown for home use and for market than any other kind. The fruit is of distinct "pear shape," sweet, very juicy, tender and of excellent flavor. The skin is clear, golden yellow, with a red cheek. The trees are good growers and good bearers. The fruit is of

much better quality if gathered a few days before it ripens, and is let ripen in a cool cellar.

FLEMISH BEAUTY—A large, beautiful, melting sweet pear. Tree very hardy, vigorous and fruitful; succeeds well in most parts of the country. September and October.

KIEFFER (Kieffer's Hybrid)—Said to have been raised from seed of the Chinese Sand Pear, accidentally crossed with Bartlett or some other kind. Large; skin rich golden yellow, sprinkled thickly with small dots, and often tinged with red on one side; flesh coarse, juicy, melting, with a pronounced quince flavor. Tree very vigorous, and an early and great bearer. October to January.

PATTEN PEAR—This pear was originated by C. G. Patten and named by the Iowa Agricultural Experiment Station. It is a cross-bred seedling of Orel and Anjou. The former is an extremely hardy, blight resistant Russian Pear, while Anjou is one of the highest in quality of our commercial sorts. Growing on the State Fruit Breeding Farm at Charles City, the Patten Pear has been quite regularly productive, sometimes overproductive. Fruit hangs well, good size and attractive. Not rivaled in quality by any other pear grown north of Central Iowa. Color, green with reddish blush. Flesh, very tender, very juicy, sweet and rich. It is ready for use last of September and October. The tree is an upright, vigorous grower, blight resistant, and is entirely hardy in Northern Iowa.

Peaches

Peaches are a most desirable fruit, but the tree is tender, and we do not recommend their planting in the Mississippi Valley north of Des Moines, Iowa.

PEACH CULTURE

The directions given under apple orchards will answer also for peaches.

CHAMPION—A large, handsome early variety, creamy white, with red cheek, sweet, rich and juicy. Hardy and productive. August.

CRAWFORD'S EARLY—A magnificent, large, yellow Peach of good quality. Its size and beauty make it one of the most popular orchard varieties. Forepart of September.

ELBERTA—Originated in Georgia, and is being planted most largely in the South, where it is regarded as the best market variety. Fruit large, freestone, yellow, with red cheek; flesh yellow, firm, juicy, fine quality. Tree very hardy and exceedingly productive.

It is equally valuable in the North, and is one of the best general sorts for all sections. Exceptionally large and fine. Forepart of September.

FITZGERALD—Originated in Canada and is adapted to northern climates. Two weeks before Elberta. Freestone. Fruit large, bright yellow. Adapted for planting in the "corn belt" district.

HEATH CLING—A large, handsome peach. Three weeks later than Elberta. Fruit creamy white, very tender, juicy and melting. Clingstone. Excellent quality. Good keeper. Very valuable for preserving and canning.

J. H. HALE—Fruit similar to Elberta, but more nearly round and almost entirely free from fuzz. Flesh finer grained, of better flavor and a perfect freestone. Tree a good grower, productive. One of the best varieties for the home orchard and a promising commercial variety. Season, forepart of September.

Raspberries

The raspberry shares with the strawberry the honor of being the most popular of all small fruit. In fact, many people prefer the delicate flavor of the raspberry to that of any other fruit.

Raspberries are always in demand and always command good prices. They are easy to raise and a sure crop. Raising raspberries for market is a highly profitable business.

They should be planted 3 or 4 feet apart in rows 6 feet apart. Red raspberries should be set 1 to 2 inches deeper than they stood in the nursery. Black raspberries should be planted with the bud in the center of the mass of roots about one inch below the surface, taking care not to break the bud. All raspberries should be trimmed to within 6 inches of the ground when planted.

CHIEF—The New Red Raspberry. A few days earlier than the Latham, of which it is an offspring. Has the fine qualities of the famous Latham and is ten to twelve days earlier to ripen, thus being a profitable berry for early market. Extremely hardy, a heavy cropper of unusual health and vigor. Fruit a trifle smaller than Latham, of bright red color and superior flavor. Highly recommended by thousands of our customers.

COLUMBIAN (Purple)—The Columbian is a seedling of the Cuthbert, grown near the Gregg Blackcap Raspberry, and believed to

be a cross between the two. It is a most vigorous grower; fruit very large; color dark red, bordering on purple; adhere firmly to the stem; seeds small, has a distinct flavor of its own, making it a most delicious table berry. For canning purposes it is much superior to any other.

CUMBERLAND (Black)—Probably more largely grown than any other black raspberry. The plants are tall, vigorous, hardy and heavily productive. The berries are glossy black, sweet and excellent.

LATHAM (Red)—A very fine fruit for home or market. Rich, red color, large size, many double fruits appearing at the first picking. Ripens about one week later than King. Canes vigorous and nearly thornless. This raspberry was originally known as Minnesota No. 4. Sometimes sold under the name of Redpath.

ST. REGIS (Red)—This everbearing red raspberry bears the first season. The berries are large and beautiful and full flavored to the very last. The St. Regis is the only raspberry, as far as known, that is practically sure to produce a crop of fruit the season planted. Awarded the highest certificate of merit by the American Institute of New York. Where it receives plenty of moisture it bears continuously through the season.

Blackberries

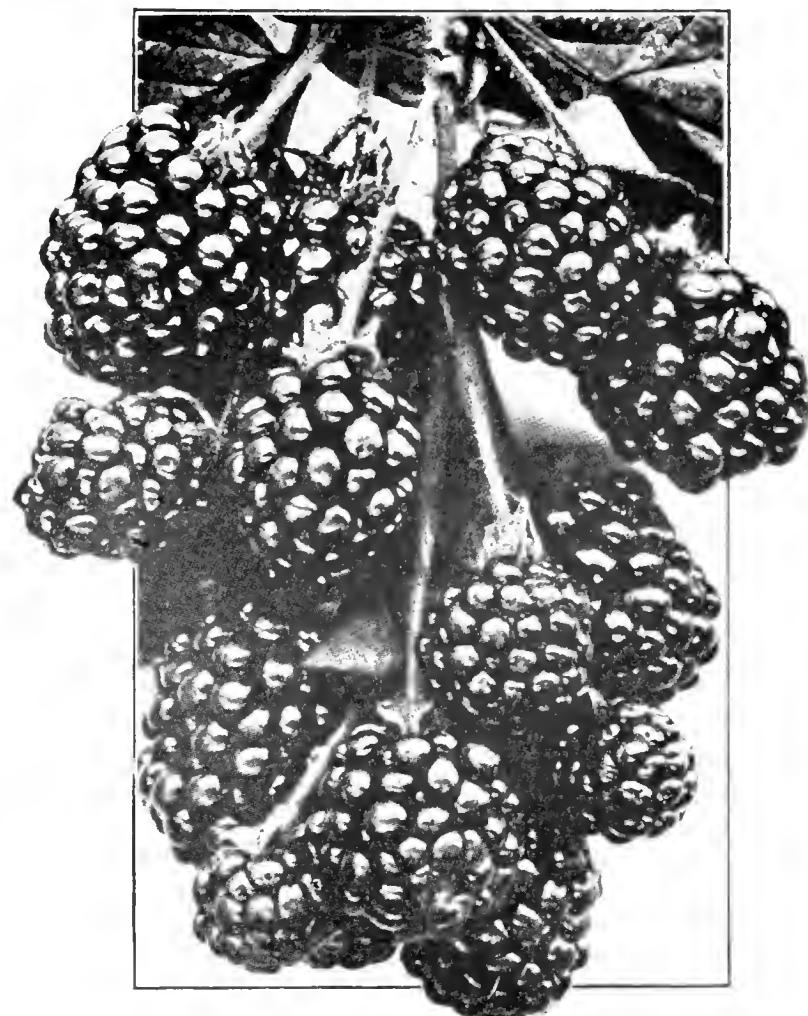
Blackberries are a delicious small fruit and ripen at about the end of the raspberry season. Blackberries are excellent for use in pies or as jam.

They require about the same kind of soil and treatment as raspberries, except that the bushes are larger and should be placed farther apart, about 6 feet between plants. To avoid too strong growth and to prevent the canes from spreading too far, the canes should be pinched back occasionally during the growing season, which causes the plants to grow in the form of small bushes and at the same time bear more and finer fruit as well as making it easier to pick the crop.

Our blackberry plants are grown from root cuttings instead of tips. This method results in strong plants with plenty of fine fibrous roots, which make a stronger and surer growing plant that comes into bearing early.

ANCIENT BRITON—A reliable market variety of medium size and best quality. One of the hardiest. Berries large and sweet. Sells well on the market and is a very profitable variety.

RATHBUN—A strong, erect grower, with a strong stem branching freely; forms a neat, compact bush, four to five feet high, producing its immense fruit abundantly. Fruit is sweet and luscious, of extra high flavor; without hard core; jet black, small seeds; firm enough to ship and handle well. Very large size.



SNYDER—One of the hardiest and best known sorts grown in the Middle West. Fruit large and of good quality when fully ripe; very vigorous and productive.

Gooseberries

Gooseberries are a sure crop. Gooseberry bushes are absolutely hardy anywhere in the middle west. They bear big crops of berries that make the finest kind of jelly and sauce, to say nothing about the delicious "gooseberry pie." Gooseberries are rich in pectin (jell) and are used to mix with other fruit that does not jell very well.

Gooseberries do well in semi-shaded places such as among trees, in the orchard or along fences. They should be planted 4 to 6 feet apart. Like currants, gooseberries bear fruit on second year wood as well as new wood and therefore you should cut and burn all wood three years old, leaving 5 or 6 new shoots each year.

CARRIE—The Carrie is perhaps the best all round gooseberry that has been introduced so far. It is a vigorous grower and begins to bear very young (usually the year after it is set out). The fruit is borne in profusion, yielding several quarts per bush. The fruit is quite large (sometimes as large as $\frac{3}{4}$ of an inch in diameter) and perfectly smooth. When ripe the fruit is a deep wine color with a very pleasant flavor.

DOWNING—The Downing gooseberry has perhaps been planted for market berries more extensively than any other. The Downing is a very vigorous grower and a heavy bearer of large juicy high quality fruit. When ripe it is of a whitish green color. In certain localities the Downing is subject to mildew. This, however, can be easily controlled by spraying with Bordeaux Mixture. (See directions under Spraying Calendar, page 10.)

HOUGHTON—An old tried variety. A vigorous grower and very productive. Berries of medium size, smooth, pale red, and of good quality. The Houghton is not subject to mildew. When in doubt plant Houghton.

PEARL—The most prolific gooseberry known. One bush produced 2,500 berries. It is free from mildew and is larger than the Downing. The color is light green and quality first class. Being thoroughly tested, it promises to be one of the most valuable varieties of recent introduction and the best of its class.

RED JACKET (Joslyn)—A most prolific and valuable gooseberry; as large as the largest; berry smooth; very hardy; free from mildew.

Currants

No fruit garden is complete without currants. They are easy to grow and yield abundantly every year. There is no other fruit that makes such bright colored, highly flavored jelly as the currant. Currants are also used in combination with other fruits to give the color and "jell" that other fruits lack. A well cared for bush will yield several quarts of fruit in a season.

Currants like cool deep soil and a little shade. They do well in such places as among fruit trees or along fences as well as in the open. They should be planted three to four feet apart and given good cultivation. They should be pruned once a year, preferably in the fall. The only enemy of the currant to give any trouble is the currant worm. This, however, is easily and safely checked by sprinkling Hellebore in powder form (obtainable from your druggist) on the bushes as soon as the worms appear. An easy way to apply the hellebore is to mix it with flour about 5 to 1. Put the mixture in a sifter and shake it over the bushes while the dew is still on them.

Currants bear on second year wood as well as new wood, therefore you should cut and burn all wood three years old, leaving 5 or 6 new shoots each year.

CHERRY—The Cherry Currant is a vigorous growing, stocky bush. The clusters of berries are rather short, yet the bush is a heavy bearer. The fruit is large, bright red in color, very juicy and of fine flavor, with thin skin.

FAY'S PROLIFIC—Best of all the red Currants; a great bearer, with long stems; clusters are large, with individual berries of good size. Flavor subacid; few seeds.

LONDON MARKET—The London Market Currant has been grown for many years in

the market fruit district of Michigan where it is very popular on account of its vigorous growth and heavy yields. Fruit red in color, clusters large, and berry good size. The Experiment Station of North Dakota lists the London Market as the best currant for that state. It can safely be recommended as one of the best.

LONG BUNCH HOLLAND—The Long Bunch Holland Currant is an unusually strong growing bush and grows to immense size. The berries are large and borne in long, easily picked clusters which ripen somewhat later than other currants. The fruit is bright red and of fine quality. Do not hesitate to recommend the Long Bunch Holland for a heavy bearing market berry.

PERFECTION—The Perfection Currant is a very large, beautiful, bright red currant of splendid quality. Very popular as a table berry, served with sugar and cream. A good seller on account of its great size and splendid color.

POMONA—The Pomona Currant is of good size; the berry is bright red; a very beautiful fruit on account of being almost transparent, and very few seeds. The bunches hang on the bush for a long time after ripe, without dropping. The Pomona is a good market berry as it holds up in shipping about the best of any good bearing variety.

RED DUTCH—The Red Dutch currant is one of the oldest varieties, and is still the favorite with many. A heavy bearer of medium sized berries. The fruit is bright red and borne in good sized bunches that ripen very early. One of the most profitable of currants.

WHITE GRAPE—The White Grape currant is a very large white currant, probably the best of all white currants. High in quality and a favorite as a table berry. It does best on rich soil.

Strawberries

There are two classes of strawberries, June bearing and Everbearing. The Everbearing, as its name indicates, produces berries practically the entire growing season. The total crop from the everbearing plants, however, does not greatly exceed that of the June bearing, but is spread over the entire season. This is particularly appreciated late in the summer when all other berries are gone.

We list only the staminate self-fertilizing plants, and only the outstanding varieties of those.

Any good soil will do for strawberries. A northern exposure is a little less liable to injury by late frost in the spring. In small gardens it is well to plant them in hills 18 inches apart. For field culture plant in rows 3½ feet apart and one foot in the row. The plants should be set firmly with roots spread out, and watered heavily. Cultivate frequently until well established.

MASTODON (Everbearing)—The King of the Everbearers. Produces enormously large

berries of fine flavor within ninety days after planting and continue until freezing weather. Resists drought and frost-proof. The foliage is tough and grows tall and rank, covering the blossoms and berries, protecting them from frost and scalding sun.

PROGRESSIVE—The Progressive Everbearing is a great ever-bearer. Earlier as a spring crop than any other berry; splendid quality, staminate, and almost as free a plant maker as its parent, the Dunlap. A persistent bearer from May to November. Fruit of fair size, resembling the Dunlap.

SENATOR DUNLAP—This is the leading strawberry throughout the United States. It does well everywhere and produces enormous crops of fruit regularly. Senator Dunlap has perfect blossom, bearing a good crop planted alone; is hardy, productive, a splendid keeper and able to hold its own under any "rough and tumble" method of culture to which it is likely to be subjected. Senator Dunlap is a very heavy bearer of good size,

evenly shaped fruit of a very beautiful dark red color, and its flavor is delicious. For canning it is fine, making a rich, red syrup. It is a first class shipper and retains its brightness long after being picked. It always looks well on the market and sells quickly at top prices. The best proof we have that this berry is a

big money maker everywhere is the fact that our customers in nearly every state in the Union are ordering Senator Dunlap in very large quantities every year, often planting several acres solidly to this variety. We cannot recommend Senator Dunlap too highly. We guarantee it to please you in every way.

Grapes

Grapes do well anywhere on rich soil or on poor; on level prairie or on stony hillside; in vineyards or trailing over the backyard fence.

A few vines suffice for a family and these may be trained over an arbor or used as a vine to cover the porch. No fruiting plant rewards the grower more liberally than grapes. Bushels of fruit may be picked from a few vines. Ground too hilly or stony for other purposes yields splendid crops of grapes.

Grapes should be cut back to six inches at the time of planting. It must be remembered that grapes bear only on new wood, therefore the old vines should be severely pruned after each crop. A three-wire fence supported by posts not over 15 feet apart is perhaps the best support upon which to train grape vines.

The grapes listed here will satisfy all tastes and purposes and have been proved especially valuable in the middle west.

BETA—Valuable for arbor covering and one of the best of all the grape family to manufacture into grape juice. Like the Compass Cherry, the hardiest of all cherries, the Beta, the hardiest of all grapes, originated in Minnesota. While there is some difference of opinion as to its parentage, practically all agree that one of its parents is the old reliable Concord. The Beta has been tried out under all imaginable conditions from Iowa to the most northern Canadian Experiment Station. In every case it has shown itself superior to the old varieties in hardiness and ability to bear an abundance of splendid fruit. Recommended by all horticultural societies and experiment stations.

CONCORD—A large, handsome grape, ripening in latter part of September; very hardy, productive and reliable; succeeds well over a great extent of country. One of the most popular market grapes.

MOORE'S EARLY—Black, similar to Concord, but of larger berry and somewhat smaller looser bunch. Vine moderate grower, but heavy producer. Ripens a week or more ahead of Concord. Very popular home and market grape.



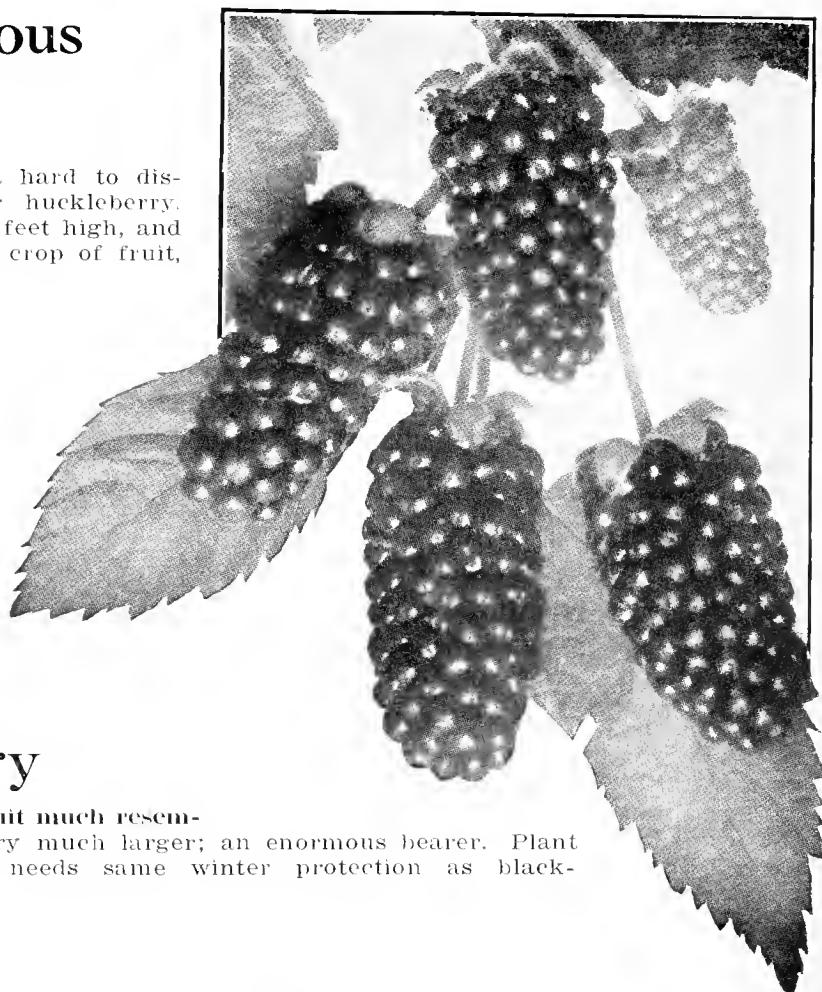
NIAGARA—Said to be a cross of Concord and Cassidy. Bunch medium to large, compact occasionally shouldered; berry large, roundish, uniform; skin thin but tough, pale green at first, changing to pale yellow when ripe, with a thin, whitish bloom; flesh slightly pulpy, tender, sweet. Vine vigorous, healthy and productive; foliage thick and leathery. Ripens with the Concord. All things considered, the Niagara is probably the most valuable white grape in cultivation.

WORDEN—The Worden is the best of all of the black grapes. It is a seedling of the Concord but ripens from ten days to two weeks earlier. It is fully equal, if not superior in quality to the Concord. A vigorous grower and a much heavier bearer. In some places it has been known to out-yield the Concord two to one.

Miscellaneous Fruits

DWARF JUNEBERRY—Fruit hard to distinguish from blueberry or huckleberry. The shrub grows about four feet high, and bears annually an abundant crop of fruit, which ripens in June.

RUSSIAN MULBERRY—A very rapid-growing plant; bears well; fruit sweet, variable in size and color; leaf dark green and of very different shapes; some are birch-shaped, others cut and notched as much as any of our oaks, and in as many different shapes as all the varieties put together. Will stand almost any amount of drought.



Dewberry

DEWBERRY LUCRETIA—Fruit much resembles the blackberry, but very much larger; an enormous bearer. Plant runs on the ground and needs same winter protection as blackberry.

Vegetables

ASPARAGUS

There is big money in raising Asparagus for the market. There is never enough to supply the demand. There are many localities where several hundreds of acres are devoted entirely to growing Asparagus. For family use a bed a rod square will provide an ample supply for years.

Culture—To make an Asparagus bed, prepare a place of fine, loamy soil, to which has been added a liberal dressing of rich manure. For a garden, set in rows eighteen inches apart, with the plants ten to twelve inches apart in the rows. Make a small mound of the soil in the center of the hole in which you are planting, over which the roots should be spread, then cover the plants with about five inches of soil. If planted in the fall the whole bed should be covered before winter sets in with two or three inches of coarse stable manure, which may be lightly forked in between the rows as soon as the ground softens in the spring. Set the plant so that the top or crown of it is five to six inches below the surface.

CONOVER'S COLOSSAL—Shoots deep green and often over an inch in diameter are thrown up very rapidly from this variety. One of the best.

WASHINGTON (Rust Proof)—A new rust-resistant pedigreed Asparagus. As a standard variety for the production of fancy Asparagus for the home or market, it stands ahead of all others in size, vigor, tenderness, quality and rust-resistance.

RHUBARB

RED GOLIATH—The best rhubarb in America. Stalks are giant in size, twice as large as ordinary rhubarb. Bright red in color, very tender and stays tender so you can use it all spring and summer. Has very sweet, rich flavor.

LINNAEUS—Early, very tender. Has mild subacid flavor. Not stringy or tough. The plant grows large. Is the housewife's favorite for sauce and pie.

Evergreens

The EVERGREEN is taking its rightful place in the landscape.

The middle west is coming to depend upon the EVERGREEN as the backbone of all landscape plantings because it is useful and ornamental all the year round. The snows of winter, which make deciduous plantings look stark and cold, only add to the warmth and beauty of the EVERGREEN.

In the summer when deciduous trees exhibit luxuriant foliage and flower, the soft colored EVERGREENS provide the background and the connecting link that makes the whole planting a harmonious design.

Where should one buy EVERGREENS? From the man who collects wild, straggly things from the unkept forest and sends them out to almost certain death? From the jobber or the department store who handles them merely as so much merchandise? Or from the **LARGEST GROWERS IN THE WORLD** of EVERGREENS—from men who have spent a lifetime developing fine evergreens, and who handle the baby trees with almost loving hands throughout their nursery life, and then send them away to you packed carefully in the kind



Evergreen Seed Beds

of material that will insure safe transportation and almost sure life after transplanting.

The SHERMAN NURSERY COMPANY grows more EVERGREEN trees than any other grower in the world. The pictures here will give you an idea of the extent of some of our plantings.

The SHERMAN NURSERY COMPANY has grown to its present size in half a century. Throughout the years it has been one of our chief aims to grow the best EVERGREENS obtainable anywhere. The fact that the demand for SHERMAN EVERGREENS has made it necessary to grow more evergreens than any other nursery in the world suggests the character of our trees.

Why Sherman Evergreens Grow

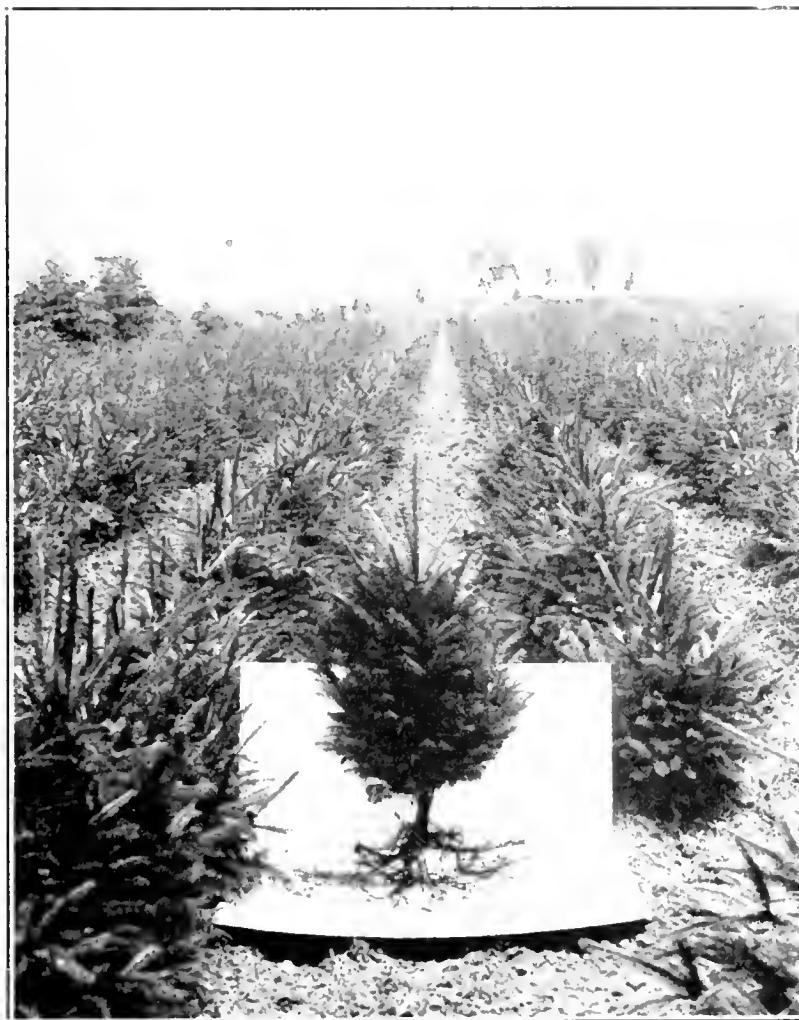
This picture shows why Sherman Evergreens grow. They are three times or more transplanted (root pruned each time), set out in wide rows, and carefully cultivated and trimmed where necessary.

Such care results in a well balanced top and a large healthy root system, insuring successful transplanting.

How to Plant Evergreens

Evergreens are not hard to plant. However, one must take care not to expose the roots to the sun or wind, for the evergreen is different from the deciduous trees in that its sap is composed in a great measure of rosin, which dries and cakes very quickly when exposed to sun or wind. Once dried and caked, this sap will never run again, and it means certain death to the tree.

In setting an evergreen, dig



the hole first, making sure that it is plenty large enough to take all the roots without cramping them. Throw the good black dirt on one side to use next to the roots. Then unwrap the roots of the tree, remove all the moss and other packing material and place the tree in the hole immediately, using the fine black dirt next to the roots. Fill the hole to within three inches of the top with dirt and then pour in several pails of water, allowing it to seep away until the ground will take no more water readily. Then fill the hole with loose dirt. If the season is very dry give the tree a good soaking not often than once a week. Keep the dirt on the surface loose to serve as a mulch to preserve the moisture.

If the Evergreen Is Balled in Dirt

In cases where the evergreen is **balled in dirt and burlapped**, do not try to remove the burlap. Dig the hole large enough to accommodate the ball, set it in the hole, cut the strings holding the burlap and roll it back from the top of the ball. Fill the hole with dirt and give it plenty of water.

Evergreens for Every Need

There is a type of evergreen for every need. The chart at the top of page 37 shows that there are six distinct types of evergreens.

They can be used

- at corners of the house and garden
- for entrance plantings
- for screens and backgrounds
- for foundation plantings
- with rock walls
- around pools or lily ponds
- as specimen trees
- in the rock garden
- for windbreaks
- for hedges
- as a ground cover
- and in many other places.

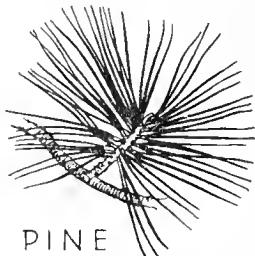


A 60-acre Field of Evergreens

Learn to Distinguish Evergreens

To some folks, all evergreens are just pines or just spruce trees.

In the drawings on this page there are four types of foliage to illustrate the difference in the leaves of four of the most common types of evergreens. Now it is true that in general shape many evergreens are similar to others, but as much of the charm and beauty of the different varieties lies in their different foliations, it is interesting to be able to recognize a few.



PINE



SPRUCE



ARBOR VITAE



JUNIPER

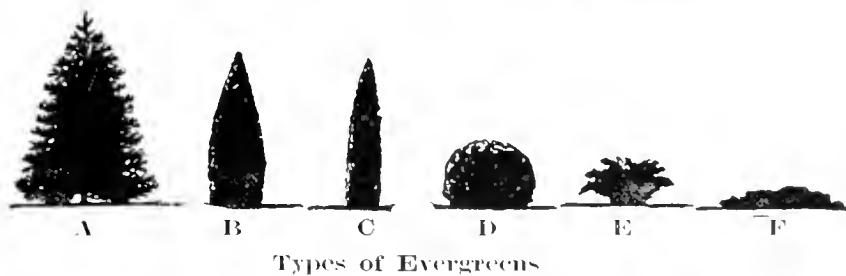
The Pine. Pine needles are long, narrow and borne in clusters, having from two to five needles in each bundle. Notice the drawing and you will see these separate bundles of needles very clearly.

The Spruce. Spruce needles are short and four-angled or four-sided. The needles are stiff and pointed and protrude from all sides of the stem quite unlike the Pine.

The Arbor Vitae (called White Cedar in the North). Arborvitae leaves are small and scale-like on fern-like foliage shoots, soft to the touch. They are entirely different from the leaves of Pines and Spruce, the foliage being fern-like and flexible.

The Juniper. The Junipers embrace the group of Red Cedars and similar varieties and the Junipers. Their foliage has many variations in the different varieties. The twigs are slender and the leaves are small, scale or dagger-like, opposite or whorled.

Evergreen Varieties



Types of Evergreens

Almost all of the evergreens are valued for their distinct shape and symmetry. In selecting and grouping evergreens it is well to consider their shape if a pleasing result is to be secured.

Evergreens can be divided into six general groups, as illustrated above. A classification such as this makes it much easier to select the right evergreen for the right place. It must be remembered that the members in each group are alike only in shape or outline. Each has its own characteristics and may be a tall grower or a dwarf grower according to its class.

Type A. This broadly pyramidal group of the Christmas tree type embraces quite a few of the common evergreens including some of the spruces, pines and firs. As a rule they make large trees at maturity and make most perfect specimens when growing without interference. This class is good for lawn groups, shelter planting, avenues or specimens.

Type B. The evergreens in this group are usually medium height growers suitable for backgrounds and foundation plantings. They are useful to give height at corners and accent at each side of a doorway, gateway or garden entrance. Various varieties of Arbor Vitae and Juniper are included in this group.

Type C. These are the upright, columnar varieties which introduce an exclamatory note in the landscape, wherever an accent plant is needed or where formal effects are desired. Certain Junipers and the pyramidal arbor vitae offer such narrow types.

Type D. In the family of evergreens there are many fine dwarf varieties which grow more or less globular. These are very useful for specimen planting, either alone or in combination with taller growing varieties planted in back. The Mugho pine and Globe and Compact arbor vitae belong in this group.

Type E. The evergreens in this group constitute an intermediate stage between creeping Juniper and upright growers. All are dwarf and consequently are desirable plants for foundation planting. Two of the most commonly known of this group are Juniper Pfitzeriana and Juniper Savin.

Type F. The creeping varieties of Juniper which constitute this group are at home on slopes where they can spread out at will or wherever a low carpet of evergreen foliage is desirable.

Each variety listed here has a type letter following the name, and by consulting the above chart you can readily see to which class it be-

longs. The numbers following the type letter indicate the height of the mature tree.

ARBOR VITAE, AMERICAN (*Thuya Occidentalis*). Type B—40 feet. Sometimes called white cedar. A thrifty growing tree with bright green foliage, hardy anywhere. It is especially recommended for screens, hedges and windbreaks, as it grows very dense and responds well to trimming.

ARBOR VITAE, COMPACTA (*Thuya Occidentalis Compacta*). Type D—3 feet. A dwarf round tree with bright green extremely compact foliage. Slow growing and clean. Can be used in a formal or informal planting.

ARBOR VITAE, DOUGLAS GOLDEN (*Thuya Occidentalis Aurea Douglasi*). Type B—15 feet. A valuable golden form of Arbor Vitae. It is a strong grower, forming a broad, bushy, heavy specimen. Its unusual color makes a fine contrast. It can be sheared and kept to any form desired.

ARBOR VITAE, GLOBOSA (*Thuya Occidentalis Globosa*). Type D—4 feet. Grows naturally round like the compacta arbor vitae. Has dense foliage bright green in color. Often planted in tubs or set along walks. Always looks well when planted in front of taller evergreens.

ARBOR VITAE, HOVEY'S GOLDEN (*Thuya Hoveyi*)—A rather slow growing form of Arbor Vitae, especially fine for group planting on account of its golden green foliage. In shape it closely resembles the Globosa Arbor Vitae. Type D—6 feet.

ARBOR VITAE, LITTLE GEM—(Var. of *Thuya Occidentalis*). Dwarf Globe type. Much hardier than Globosa. A slow grower. Very neat and compact. Is especially fine for low borders, foundation groups, tubs, or urns. Type D—3 feet.

ARBOR VITAE PYRAMIDAL (*Thuya Pyramidalis*)—Another form of the American White Cedar, a handsome, graceful tree, rather slow growing. As its name indicates, it grows naturally in the shape of a rather slender pyramid. This type of tree is much used as sentinel trees, as well as in backgrounds or at the sides of groups of other evergreens to balance the effect. Dark green foliage. Type C—12 feet.

ARBOR VITAE SIBERIAN (*Thuya Siberica*)
A beautiful imported type. It grows in the form of a rather broad pyramid. Its tendency is to hug the ground, hence is especially adapted for hedges. Its dense bluish green foliage makes it distinctly different. Type B—12 feet.

AUSTRIAN PINE—It is one of the best foreign species for this country. Its growth, even when young, is characteristically stout and sturdy. A remarkably robust, hardy, spreading tree of grand size; very dark and massive in effect, and when planted in an appropriate location is distinct and unique. One of the hardiest in dry sections. Usually grows with a round top. Type A—30 feet.

BALSAM FIR—Tree conical in form; foliage deep green on upper surface and silvery on lower surface. A very symmetrical tree and beautiful while young, but inclined to shed its small branches and become naked and unsightly as an old tree. Type A—25 feet.

BLACK HILLS SPRUCE (*Picea Canadensis*)
The Black Hills Spruce, a type of the White Spruce native to the Black Hills in South Dakota, is rapidly becoming one of the most popular evergreens in the Northwest. Its absolute hardiness, the ease with which it transplants, its symmetrically dense growth and dark green color, place it in a class by itself. As an individual ornamental tree it is as distinguished as the Colorado Blue. It grows a little slower than the White Spruce, but its many other good qualities fully outweigh this. Minnesota Forestry Board writes: "This variety is strong and especially hardy under conditions of drought and exposure. It is adaptable to light soils and especially recommended for the North and West." Type A—25 feet.

COLORADO BLUE SPRUCE—A slow growing tree with branches broad and fan shaped. This species varies greatly in color, from pale green to a beautiful silvery green. Specimens of the latter color are hard to obtain, and for that reason are very expensive. Type A—40 feet.

COLORADO (SELECT) BLUE SPRUCE—(*Picea Pungens Glauca*). Nature's most beautiful tree. A slow growing tree, very shapely with an abundance of heavy foliage of rich, glistening blue which sparkles in the sunlight. Of magnificent beauty. This tree has created a sensation throughout the United States and abroad. It is indeed a triumph in evergreen growing. Type A—40 feet.

CONCOLOR (Abies Concolor)—This tree is a native of the Rocky Mountains. It grows pyramidal in form, and in its native mountains grows to a very large tree. Its foliage is long, very soft and pliable, and varies in color from silvery blue to a very deep green. In the opinion of many this tree is far more valuable than the Colorado Blue Spruce as an ornamental tree. Type A—40 feet.

DOUGLAS SPRUCE—A native of the Rocky Mountains and Pacific Coast states; large conical form; branches spreading, horizontal; leaves dark green above, silvery white below. This tree is known under different names and is the tree from which most of our spruce and fir lumber is obtained. Our trees are grown from Montana grown seed and therefore of much hardier type than the ordinary tree. Type A—35 feet.

JUNIPER-CANNARTI—A pyramidal tree of medium size. May be kept trimmed to any size desired. Rich green, heavily tufted foliage. Some trees bear blue and silver berries, which adhere late in autumn and are greatly enjoyed by birds. (May be also secured in spreading form.) Type B—8 feet.

JUNIPER-GLAUCA—Very attractive and desirable, adding color contrast to landscape plantings. Growth quite rapid. The long, slender branches produce a graceful effect. Grown in two forms—trimmed to make shapely, pyramidal trees; or spreading, open growth. Both types very desirable. Extremely hardy. Silver-blue foliage. Type B or E—8 feet.

JUNIPER-PFITZERANIA—This is one of the finest of the Juniper family. Somewhat slow growing and among the hardiest evergreens. It has been found especially desirable for planting in cities on account of its ability to withstand the soot and dust. Foliage gray green all the year around. The Pfitzerania presents a striking appearance. Very valuable in landscape or foundation planting on account of its low growing fern-like character. Trees twenty years old are seldom above five feet in height. Type E—3 feet.

JUNIPER-SABINA (Compact Savin Juniper)
Bushy, low grower, branches semi-erect; beautiful deep green; fine for massing or as a low tree in foundation groups. Type E—3 feet.

JUNIPER-STRICTA (Spiny Greek). This beautiful variety forms tall, dense, narrow conical head, tapering gradually from the ground to a sharp point. Slow growing and well adapted for foundation plantings, rock gardens, or other situations where small or dwarf trees are desired. Foliage blue-green color. Type C—4 feet.

NORWAY PINE (Red Pine)—Very ornamental; quite hardy and of vigorous growth; the needles are lustrous green, long and most often in pairs, contrasted by the russet-colored stubby cones. This is the big tree found growing in the forests of Minnesota and Wisconsin. State foresters say this is the best tree for reforesting the cut-over lands of the North. It is free from insect pests. Type A—40 feet.

NORWAY SPRUCE (Picea Excelsa)—A wonderful evergreen for shelterbelt purposes. It grows fast, yet compact and carries its dense growth clear to the ground. The Norway Spruce stands crowding well as in a windbreak or hedge and thrives on almost

any kind of soil. It is also a magnificent ornamental evergreen, much used for lawn planting. The Norway Spruce makes a good hedge as it stands pruning well. It is especially recommended for planting either as a windbreak, hedge or ornamental tree in Indiana, Illinois, Missouri, Kansas, the eastern three-fourths of Iowa, and the southern half of Minnesota. Its foliage is dark green with short, stiff needles. Quite an industry has grown up of late years raising Norway Spruce for Christmas Trees. Type A—40 feet.

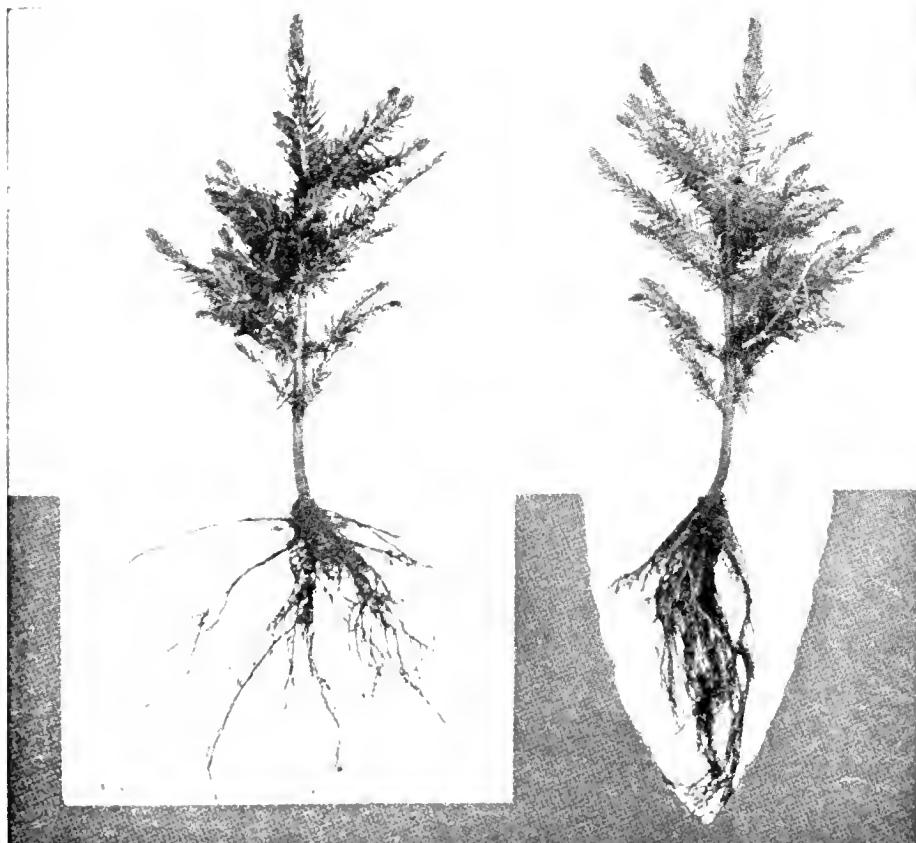
PINUS MUGHO (Dwarf or Table Mountain Pine)—This is the most beautiful of all dwarf pines. It forms a low round top, and the breadth of the tree is frequently double its height. Foliage bright green. A valuable tree for ornamental planting. Type D—4 feet.

PINUS PONDEROSA (Bull Pine)—A very rapid-growing pine of the Rocky Mountains. The leaves of this pine are very long, 6 to 10 inches, dark green on top and bluish-white underneath. It is highly drought resistant and prized through some sections of Nebraska and Dakota where evergreens are hard to grow. Type A—35 feet.

RED CEDAR—This is the common cedar, native of the Northwest. Fine foliage; broad spreading top, and probably the most durable post or tie timber known. It stands shearing well, and is best known in its clipped form. It is partial to sandy or rocky soil. Type B—20 feet.

SCOTCH PINE—One of the most rugged of all evergreens; a very rapid-growing tree and one which will stand almost any climate. Type A—35 feet.

WHITE SPRUCE (Picea Canadensis)—The White Spruce is native to North America, being found growing as far north as the coasts of the Arctic Ocean. Grows freely on almost any kind of soil but prefers moist to dry situations. It has no superior as a shelterbelt tree as it will grow where other trees cannot. It is especially recommended for shelterbelt in the Middle West, particularly in Western Iowa and Minnesota and on the wind-swept prairies of Nebraska, North and South Dakota and Montana, where few other kinds of evergreens survive. On account of its beautiful shape, the White Spruce is much used for ornamental purposes. Foliage light green, the branches carry to the ground even when the tree is forty or fifty years old. Type A—40 feet.



No. 1

No. 2

In planting evergreens, as with all other trees, the hole should be made large and deep enough to permit spreading the roots as in No. 1. A tree planted as in No. 2 is not likely to succeed.

The Evergreen Windbreak



The picture shows a Sherman Norway Spruce windbreak 10 years after planting. It shows plainly the efficiency of the evergreen as a windbreak tree.

The evergreen carries its foliage all the year around, while other trees shed their leaves at the time when protection is needed most. The evergreen also carries its branches clear to the ground, so that it forms a solid shelter wall, completely effective from the ground up, and causes the force of the wind to shoot upward and over the area immediately behind it. In the case of deciduous trees the wind is merely retarded by the naked branches while below there is practically no protection.

The ambition of every farmer on the prairies has been to have an evergreen windbreak or grove about his buildings. No other class of trees affords the same degree of shelter, or adds so much beauty and dignity to the farm home as a well grown shelterbelt of evergreens.

An evergreen windbreak pays big dividends every year in personal comfort to its owner and family and in increased profits which are the direct result of effective winter protection.

A farmer sheltered by an evergreen windbreak has one of the greatest farm relief agencies ever created. In summer it protects his farm buildings from hot winds and dust, in winter it quiets the fury of the cold winds and pulls the snow up short.

The farmer's house is built warm and is heated by coal or wood, which are cheap fuels. The farmer's barn is not built nearly as warm as his house, and it must be heated with animal heat, and grain and hay are expensive fuels. On cold windy days in winter the farmer without a windbreak actually loses money. His animals need most of their energy to keep warm, and they have nothing left to turn into milk or added weight.

Prosperity smiles on the man behind an evergreen windbreak. His hogs and steers are ready for market sooner and with less feed than his neighbor's. His cows give him a full pail when milk brings the highest prices. His hens lay eggs when his neighbor's hens are shivering on the roosts. He does his chores cheerfully and in comfort, for he is protected by an evergreen windbreak.

As the largest growers of evergreens in the world we have made it a point to study the planting of windbreak evergreens.

The windbreak will make better growth if the ground is ploughed and disced before the evergreens are planted, and if the trees are cultivated the first few seasons. It is all right to grow garden truck between the tree rows as long as the trees are small. Use care in cultivating so the trees are not bruised or damaged. Always keep the windbreak fenced off from livestock or the lower limbs will be damaged and both the looks and the usefulness of the windbreak will be sacrificed.

To produce the most efficient windbreak we recommend planting the trees 14 feet apart in the row and the rows 8 feet apart, setting the rows so that the trees break joints in this manner:

X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X

Planted in this way the windbreak occupies little ground; the trees are close enough between the rows that the snow does not lodge among the trees; an unbroken wall is secured with the fewest number of trees, and the crowding makes the center row grow tall while the outside rows supply protection close to the ground.

One hundred trees will make 450 feet of windbreak of this type. To obtain the number

of trees required by any windbreak, divide the length of the desired windbreak by $4\frac{1}{2}$. For example, if the windbreak needed is 600 feet long, 600 divided by $4\frac{1}{2}$ is 133 trees, the number needed.

For windbreak purposes we especially recom-

mend Norway Spruce, White Spruce, and Norway Pine. For some parts of Western Iowa, Nebraska, and South Dakota, Black Hills Spruce is the best. The first three mentioned are generally the most satisfactory throughout the middle west.

Shade and Ornamental Trees

How to Select Shade Trees for the Home Grounds

One of the questions most often asked a nursery salesman is: "Where shall we plant our trees?"

Here are a few simple rules of modern landscape designing which may serve as guides to secure the most satisfactory arrangement:

1. Plant a tree wherever you feel that it would serve a desired purpose. For example, if shade is desired over a certain window, do not hesitate to plant one or more trees at the places necessary to secure that shade.

2. Do not place trees directly in front of the house as this obstructs the view from within, and makes it appear at a disadvantage from without. Frame the view toward the house between thrifty strong trees. This adds prominence and beauty to the dwelling.

3. Group the varieties. Do not mix too many kinds "salt and pepper" fashion. Remember that trees grow in family groups. Three or four elms with their heads together give a strong and imposing effect. One tree of a kind often looks unrelated to the yard and out of place. One may often secure a pleasing effect by planting three or four trees together so they may grow almost as one, leaving room for a garden seat between their trunks.

4. Do not place the trees too near the house in an effort to keep the rooms cool. The heat that comes in the windows is largely the reflection of the sun's rays from the ground, not the direct rays. Place the trees so as to shade the lawn if you would have cool rooms.

5. Plant trees so that every portion of the lot secures some shade during the day. This retains the moisture and makes for a thrifty growth of shrubs and grass. On the other hand, so plant that every portion receives the sunlight through a part of the day. This warms the soil and makes hardy shrubs and a tough sod. Plan that there will be on every portion of the lawn an ideal combination of light and shadow, supplying the energy of sunlight and the protection of shade.

6. Much is suggested by the form of the various trees. An elm signifies grace and stateliness, a weeping tree is restful, an oak is sturdy. There is a place in almost every landscape planting for each of these three classes of trees.

A good way to plan the exact location of your

trees is to place sticks in the lawn to represent trees. Keeping the above suggestions in mind, move them around until a satisfactory arrangement is decided upon.

How to Plant Shade Trees

Trim the top back about one-third. Also prune damaged roots so there are no ragged or torn places to heal.

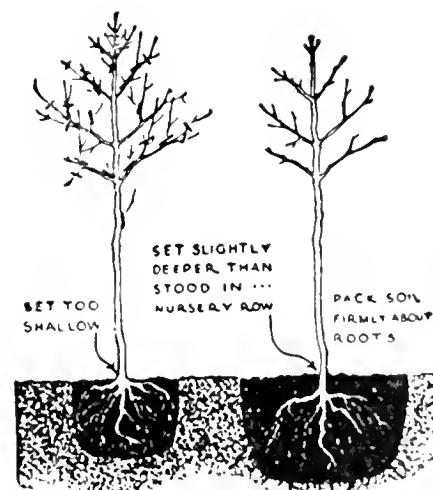
Dig hole large enough to take roots without cramping them.

Break up subsoil so the new roots can easily penetrate the ground in search of nourishment.

Dig deep enough to set the tree two inches deeper than it stood in the nursery.

Spread roots naturally and work good black soil around them. Trample well with feet to make sure there are no air pockets under or around the roots. Fill the hole to within two or three inches of the top, leaving a pocket to catch water.

If you have a hose, lay it at the roots of the tree and let it run for several minutes, thoroughly soaking the ground. If you have no hose carry several pails of water and pour into the hole, letting it seep away between each pailful until the ground will take no more readily. Then fill the remainder of the hole with loose dirt, and keep it loose so as to form a mulch to preserve moisture.



Varieties:

ACER GINNALA (Japanese or Amur Maple) — (See Shrub list, page 46.)

ASH (Green or Western White) — Known in the West as White Ash. A native tree of rather slow growth, but of hard, tough fiber. One of the best of timber trees. This tree thrives better than almost any other tree in dry sections, such as North and South Dakota.

BASSWOOD (American Linden) — A well known, stately tree, large heart-shaped leaves of a pleasing green color. A vigorous grower of pyramidal habit when young but eventually a large, round headed tree. A valuable lawn tree and should be more used for this purpose.

BOX ELDER (Acer Negundo or Manitoba Maple) — A low-spreading tree of rapid growth, well adapted to dry and cold climates. One of the best trees for the extreme Northwest.

BIRCH—EUROPEAN WHITE (Betula-Alba) — A rapidly growing tree, and when fully developed has snowy-white bark. This tree is practically of the same form as the Cut-leaved Birch, but lacks the pendulous habit of the latter, and also its cut leaves. It is a very desirable tree.

BLACK WALNUT (Juglans Nigra) — One of the noblest trees of the American forest. The wood is of well known value for cabinet making and interior finish. It is becoming scarcer annually and in many sections walnut groves are being established for the timber crop.

BUTTERNUT (Juglans-Cinerea or White Walnut) — Very much resembles the black walnut. It is a moisture loving tree and succeeds best on low rich soils. The nut is of milder and considered by many, of better quality. A broad, open top tree, with light green compound foliage and gray bark.

CAROLINA POPLAR (Populus Eugeni) — One of the most rapidly-growing of our native shade trees. Leaves very large, deep green and glossy. Tree hardy and of much value where a quick screen or shade is wanted.

CATALPA BUNGEII (Umbrella Catalpa) — (See Weeping Trees, page 44.)

CATALPA SPECIOSA (Western Catalpa) — A very rapidly-growing tree, highly recommended for post timber; leaf heart-shaped, light green and very large. Some specimens are not entirely hardy in this latitude. We consider that its principal value here is as an ornamental tree. It bears large trusses of beautiful flowers of light lilac color, sprinkled with brown; very fragrant.

CHINESE ELM (Ulmus Pumila) — This remarkable tree was introduced about ten years ago from Northern Manchuria and Siberia and has been thoroughly tested in

this country. A tree of rare beauty. It has heavy, dark green foliage of the elm type with delicate fine twigs. Combines the beauty of the best Elms with the gracefulness of the Cut Leaf Birch. Drought resistant, stands extreme winters and thrives in poor soil, making a fine showing in spite of neglect. Very rapid in growth, growing as rapidly as the Soft Maple or Cottonwood, but a very permanent tree. Foliage dense, rich green, leaves out early and remains late, making it semi-evergreen. Highly recommended by thousands of our customers throughout the Northwest. Cannot be transplanted in fall.

DOUBLE FLOWERING CRAB — Most beautiful of all the fine varieties of Flowering Crabs. At a distance the pretty medium-sized tree seems to be covered with dainty little roses of a delicate pink color. Blooms when quite young. Is very fragrant. This is a variety of our native wild crab.

HAZELNUT (Corylus Americana) — A vigorous shrub, with numerous upright branches often attaining a height of 8 feet. Large, heart-shaped leaves. Nut edible and enclosed in ruffled husks. The native hazelnut of our forests.

HACKBERRY (Celtis Occidentalis) — A rare native tree with numerous slender branches which spread horizontally, and thick, rough bark; apple-like foliage, but more pointed and a bright shiny green; a very desirable tree for street planting.

HARD MAPLE (Sugar Maple or Acer Saccharinum) — A beautiful and always popular tree, growing on a smooth trunk and forming a dense, oval head. The foliage is large and handsome and of a rich, pleasing green, turning to beautiful shades of orange-yellow and red in the autumn. It makes a splendid and uniform street tree, and is adapted to nearly all kinds of soil.

LINDEN (Tilia Americana or Basswood) — A well known, stately tree, large, heart-shaped leaves of a pleasing green color. A vigorous grower of pyramidal habit when young but eventually a large, round headed tree. A valuable lawn tree and should be more used for this purpose.

LOCUST, HONEY (Robinia Gleditsia) — A rapidly growing tree; delicate foliage of a beautiful, fresh, lively green, and strong thorns; makes an exceedingly handsome, impenetrable and valuable hedge.

LOMBARDY POPLAR (Populus Nigra Italica) — A unique and conspicuous tree on account of its erect columnar form. An extremely rapid grower and for certain purposes in landscape gardening, an indispensable tree. It is remarkably striking and picturesque when grouped with other trees in order to produce an irregular sky-line.

MAPLE, SILVER LEAF, SOFT (Acer Dasycarpum) — A well known ornamental tree,

with wide spreading, slender branches. Has been much used as a street tree. Do not confuse with Silver Leaf Poplar.

MOLINE ELM—Very rapid, erect growing type of budded elm. Has large, handsome green foliage. Hardy and desirable. The trees are all exactly alike, thereby making a wonderful tree for street planting.

MOUNTAIN ASH (European) (Sorbus Aucuparia)—A fine, hardy tree; head dense and regular; covered from July till winter with great clusters of scarlet berries.

MOUNTAIN ASH, OAK LEAVED (Sorbus Quercifolia)—A hardy tree of fine pyramidal habit. Foliage simple and deeply lobed, resembling the oak; bright green above and downy beneath. One of the finest lawn trees. Bears fruit similar to European.

NORWAY MAPLE (Acer Platanoides)—A handsome tree, of fairly rapid growth, forming a dense, rounded head of strong branches and broad, deep green leaves. Sturdy, compact, vigorous. It is one of the very best trees for lawns, parks and gardens.

NORWAY POPLAR—Sometimes called the "Sudden Saw-log." Very hardy, rapid grower. Resembles the Carolina. Planted heavily on prairies and where a quick growing tree is wanted. More desirable than the cottonwood and equally hardy.

OAK, BURR (Mossy Cup) (Quercus Macrocarpa)—A native tree of spreading form. Foliage deeply lobed, and the largest and most beautiful among oak trees. Cup-bearing, acorn fringed and burr-like. Bark corky. One of the noblest of the family.

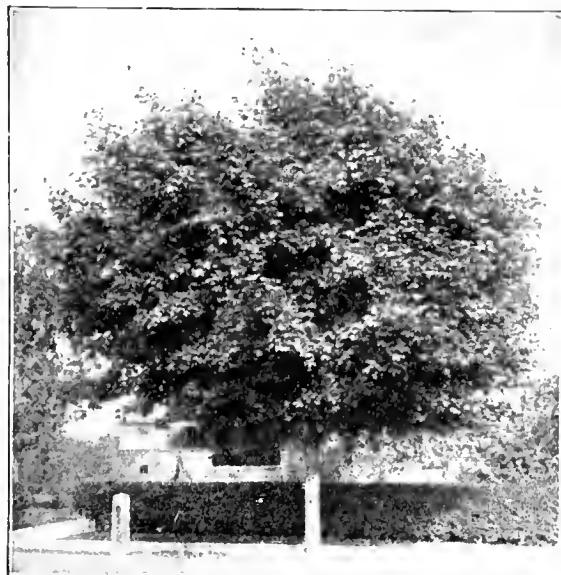
OAK, PIN (Quercus Palustris)—Foliage deep green, finely divided; assumes a drooping form when it acquires age. One of the most valuable. A good grower. Fine for streets.

OAK, RED (Quercus Rubra)—An American species, of large size and rapid growth, foliage purplish red in fall. One of the most magnificent trees.

POPLAR BOLLEANA—A tall narrow-topped tree. Leaves deeply lobed; wooly white beneath. Good for tall screens.

RICHARDII POPLAR—An extremely rapid growing tree. Spreading habit, low growing. Makes a wonderful ornamental tree for lawn planting. Beautiful golden leaves, silver underneath.

RUSSIAN OLIVE (Elaeagnus Angustifolia)—The foliage is covered with white down, which gives the tree a white appearance when in full leaf. The blossoms are small and very fragrant. The berries are light silvery, dotted thickly with fine brown specks. This tree should be clipped for hedge purposes, as it grows to a moderate sized tree if given its own course.



Norway Maple

SCHWEDLER'S MAPLE—The young shoots and leaves are of a bright purplish and crimson color. They change to a purplish green in the older leaves. A most desirable ornamental tree for the contrast of its foliage.

SILVER LEAF POPLAR (Populus Alba Nivea)

This tree is valued highly in the dry sections of the Northwest, where it is found to be one of the most hardy of trees. The foliage is very dark on the upper side and silvery white beneath. The tree forms a dense top of moderate size. It is valuable for both shade and windbreak purposes.

SOFT MAPLE (Acer Dasycarpum)—(See Silver Leaf.)

VASE ELM—An American Elm with vase formation of limbs. Very uniform. Rapid grower.

WHITE ELM (Ulmus Americana)—The native white or water elm of our forests is too well known to require description. The most beautiful of all large shade trees for this climate.

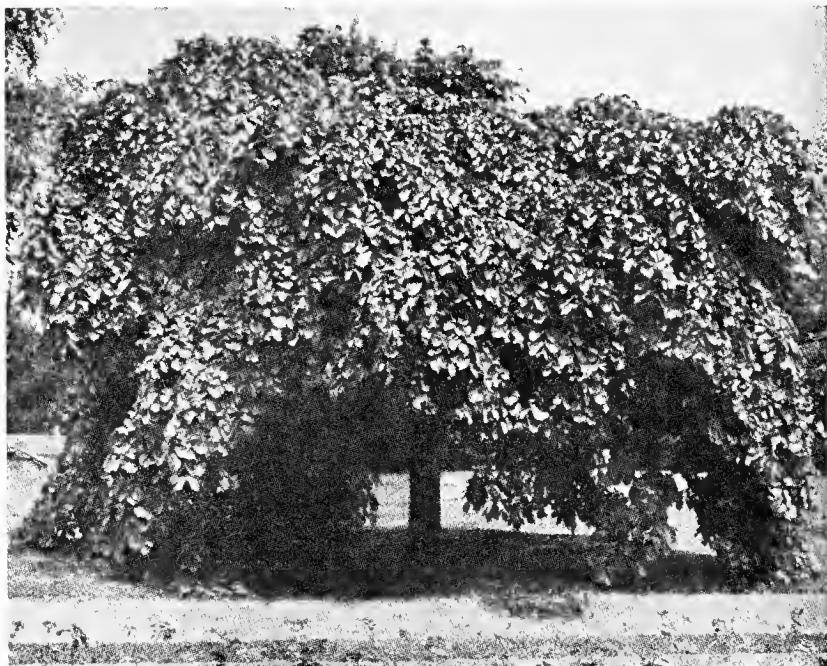
WIER'S CUT LEAF MAPLE—(See Weeping Trees.)

WILLOW, LAUREL LEAVED—Leaves in color, texture and shape resembling the laurel. Tree round-topped and of rapid growth; perfectly hardy. Seldom growing above 30 feet. Considered desirable in Montana and the Dakotas as a windbreak tree.

WILLOW, RUSSIAN GOLDEN—A rapidly-growing willow, with bright yellow bark; very attractive where planted in masses for winter decoration.

WILLOW, PUSSY—Leaves rather broad, light green, covered with hairs, whitish on under surface; opening catkins or flowers very conspicuous in March and April. Small tree with ascending branches.

Weeping Trees



Patten's Weeping Elm

CUT LEAF WEEPING BIRCH (Betula Alba Pendula)—Our finest, hardy, medium-tall tree. The delicately cut leaves on graceful drooping branches with the gleaming silvery-white bark make it beautiful summer and winter. Especially fine for lawns as it will not kill out the grass around the tree. A splendid specimen tree for lawn or cemetery.

CATALPA BUNGEII (Umbrella Catalpa)—The large heart-shaped leaves and umbrella-like top of this little tree make it a favorite for lawn planting and formal setting. This is a grafted tree, the top being a special weeping form.

WEEPING MOUNTAIN ASH—A pendulous weeper of irregular, rapid growth; sometimes planted in the center of small arbors and trained about them as a vine.

NIobe WEEPING WILLOW—Perfectly hardy and very beautiful; a new golden variety. It grows to a very large tree. Sometimes making a height of 75 to 100 feet with long slender branches 6 to 12 feet, which hang like whip lashes from the limbs; very desirable, especially along the banks of lakes, pools and streams.

PATTEN'S WEEPING ELM—This is a sport from the common White Elm in use as street trees. It is of distinct weeping character

with low, spreading branches. The old original tree is twenty inches through the body, has a wonderful spreading top ninety feet across, and only thirty-eight feet to the top-most branch. A wonderful shade tree of grace and beauty. We are reproducing this excellent weeping type, by grafting it onto the top of our common White Elm, ten to twelve feet from the ground, and continuing to grow it two years before sending to our customers. It is hardy, admired by all who see it and of special value as a shade and ornamental tree.

TEA'S WEEPING MULBERRY—This tree is similar in general appearance and habit of growth to the Kilmarnock Weeping Willow, but it grows much more rapidly and the branches are more drooping. This variety will frequently grow from 5 to 6 feet in a season, and it is nothing uncommon to see the branches trailing on the ground. The leaf is of the same general form as the Russian Mulberry, of which it is a variety. We regard this as the hardiest of all dwarf weepers.

WIER'S CUT-LEAVED MAPLE—This is one of the most beautiful of our hardy trees, having cut or dissected foliage. Its growth is rapid, the shoots slender and drooping, giving it a habit almost as graceful as the Cut-Leaved Birch.

Shrubs

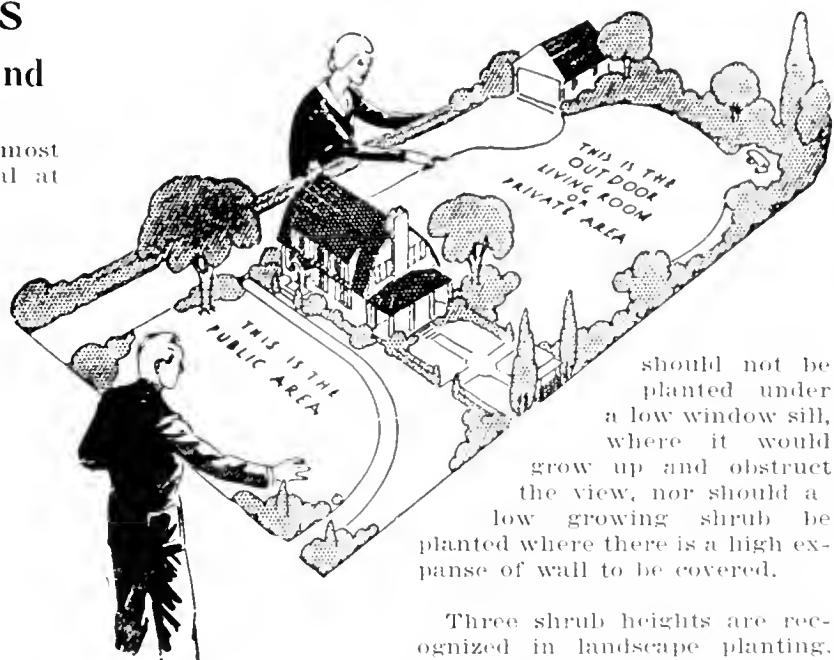
Ornamental Shrubs and Their Uses

Shrubs constitute one of the most useful groups of plant material at the command of the landscape designer. They are the backbone of the plantings for they make splendid hedges and backgrounds, they cushion sharp lines about the foundation, shut out unpleasant views, hide fences, provide shade for paths and make suitable plantings for driveways.

Shrubs make the walls of the outdoor living room and compose much of its furniture. There are shrubs to fulfill every desire. Foliage and flowers are offered in many types and in many colors.

Shrubs should always be given primary consideration in the landscape plan because they invariably make up most of the foundation planting, and foundation planting is important because it softens the sharpness of the vertical house line and the horizontal ground line and makes the house and lot appear to belong to each other.

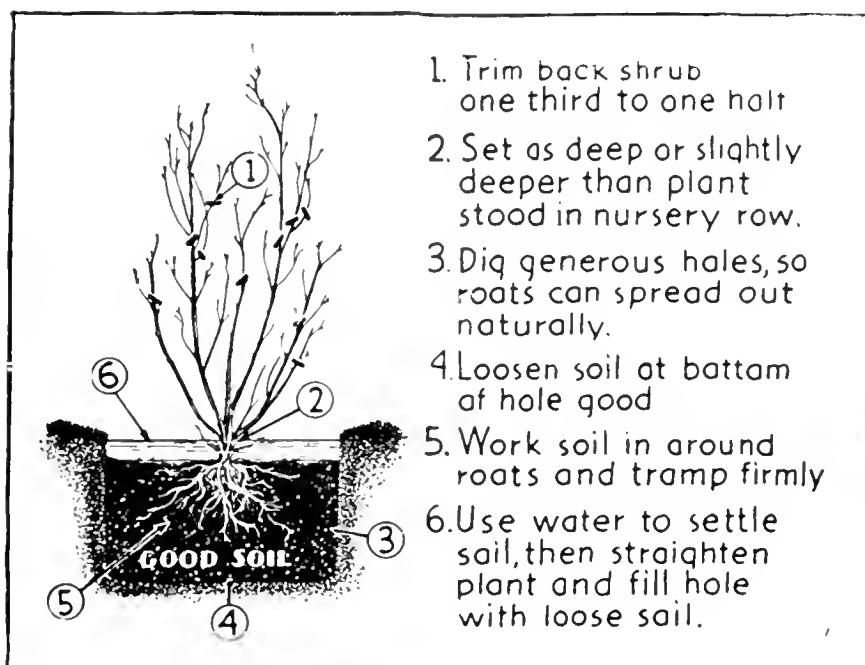
In locating shrubs, attention should be given to the height that the shrubs will attain when full grown. For instance, a tall growing shrub



should not be planted under a low window sill, where it would grow up and obstruct the view, nor should a low growing shrub be planted where there is a high expanse of wall to be covered.

Three shrub heights are recognized in landscape planting. The highest growing shrubs are planted in the background, the medium height or "filler" shrubs next in front, and the low or "facer" shrubs in front of the filler, so there is a gradual transition from the height of the background shrubs to the ground level. Some shrubs are "self facers," that is, they are bushy clear to the ground, or else their branches droop, forming a solid wall, with no need of a smaller shrub in front to fill in the space between the lower branches and the earth.

How to Plant Shrubs



ACACIA (Rose or Moss Locust, Pink Flowering Locust)—Very low and shrubby, with beautiful, clear pink flowers in loose racemes. All parts of the plant, except the flowers, are bristly or hairy; covered with a fine mossy substance like the moss-rose.

ACER GINNALA (Japanese Maple)—A small spreading tree seldom reaching over 15 feet high. Absolutely hardy. The twigs, leaves, stems and new leaves are all highly colored, giving the tree a brilliant appearance during the spring and early summer months. During late summer it is literally covered with the seed wings which are a bright pink. Its autumn coloring of foliage is brilliant beyond description.

ARALLA SPINOSA (Devil's Walking Stick, or Hercules' Club)—In the southern states becomes a tree 40 feet high. With us it usually kills to the ground each season and seldom makes over 5 feet growth. Its leaves are very large, often 2 feet long, and very much branched. It is valuable in ornamental planting for its tropical effect and for the peculiar appearance of its very thorny stumpy growth.

BUTTERFLY BUSH (Buddleia)—Vigorous, erect at first, becoming spreading. Long spikes of mauve colored flowers with bright orange eye.

CORNUS AMOMUM (Silky Dogwood)—Tall grower, branches purplish. Leaves pale green beneath, usually with brown silky hairs on the veins.

CORNUS ELEGANTISSIMA (Variegated Dogwood)—8 to 10 feet. One of the most desirable shrubs with variegated foliage. The leaves are broadly margined with white and some are almost entirely white. The bark is bright red in winter. A round topped shapely bush. Thickly covered with foliage adapted to shady places.

CORNUS PANICULATA (Gray Dogwood)—This bush is formed of gray branches, making it distinct as to coloring of stems. The flowers are small and white and borne very profusely in great panicles early in spring. It grows quite compact and is covered with white berries in fall, which persist for a long time, making the winter effect very pleasing.

CORNUS SANGUINEA (Bloodtwig) (Red Branched)—The leaves are elegantly marked with white, contrasting finely with the deep blood-red bark; hardy.

CORNUS SIBIRICA (Tartarian Dogwood)—Free-growing, 6 to 10 feet tall, and very hardy; forms a small, handsome tree in some situations. Its clusters of small, white flowers in early summer are very dainty, and its bark is a showy, dark red in spring. All the Siberian Dogwoods bear in early fall a profusion of whitish blue berries, making

them distinctly ornamental after the flowers have gone.

CORNUS STOLONIFERA (Red Osier, or Kin-nikinick)—A medium-sized, spreading shrub, with dark red bark and white flowers, followed by white berries.

BECHTEL'S DOUBLE FLOWERING CRAB (Tree Rose)—At a distance the pretty medium-sized tree seems to be covered with dainty little roses of a delicate pink color. Blooms when quite young. Is very fragrant. This is a variety of our native wild crab.

CRAB, SCHEIDECKERI (Double Flowering)—Similar in habit and foliage to the type, but has fine double flowers of a light rose-color which last for a long time.

DEUTZIA (Pride of Rochester)—A showy, early and large-flowering sort that blooms in May before the others. The flowers are large, double, white, tinted with rose on the outer edge.

DOUBLE-FLOWERING PLUM (Prunus Triloba)—A native of China. The flowers resemble our Flowering Almond, but are much larger. The clustering of the flowers is also similar, but the tree grows much larger and is hardy. The individual flowers are as large as a half-dollar.

ELDER, GOLDEN—5 to 8 feet. Bright, golden yellow leaves, the color being distinct and permanent all summer. Of vigorous spreading habit. One of the best golden foliaged shrubs.

EUONYMUS ALATUS (Winged Burning Bush)—Upright, corky winged branches. Red and crimson leaves in fall. Excellent for specimen or mass planting. Height 8 to 10 feet when mature.

EUONYMUS-AMERICANA (Strawberry Bush)—One of our native shrubs; it seldom grows over 8 feet high; symmetrical; leaves oblong, dark green and glossy; fruit similar to bittersweet.

EUONYMUS RADICANS (Winter Creeper)—A low, creeping shrub with trailing and root climbing branches. Height 2 to 3 feet.

FLOWERING ALMOND—White, a low shrub with leaves similar in shape to our wild plum, but a little more pointed; flowers very double. Flowers in May.

FLOWERING ALMOND—Pink. A charming, low growing shrub which in its season is covered with double pink flowers. One of the popular shrubs of our grandmother's day.

FORSYTHIA INTERMEDIA (Upright Golden Bell)—Our first shrub to bloom in the spring. Its golden yellow, bell-shaped flowers along the entire stem appear before the leaves, oftentimes blooming as we are getting our last snow flurries. With its mass of golden bloom vying with the Crocus in heralding the arrival of spring it is a striking contrast to its somber surroundings. The hardiest of the Forsythias.

FORSYTHIA SPECTABILIS (Golden Bell)—The best of all varieties of Forsythia. The first shrub to bloom in the spring, lighting up the whole yard with its glittering masses of rich golden-yellow flowers which cover the entire length of branches and appear before the leaves.

FORSYTHIA SUSPENSA (Weeping Golden Bell)—Produces long, slender, drooping branches. Very showy when in bloom, especially if trained upon a lattice. Good ground cover for terraces.

HANSEN'S PURPLE PLUM—A small tree. Deep purple leaves and flower buds of same color. Flowers open white. The tree is of moderate size and its principal value is for foliage effect among other trees and shrubs. Very hardy.

HAZELNUT—A vigorous shrub, with numerous upright branches, often attaining a height of 8 feet. Large, heart-shaped leaves. Nuts edible and enclosed in ruffled husks. The native Hazelnut of our forests.

HIGH BUSH CRANBERRY (*Viburnum Opulus, European*)—Shrub same general form as our common Snowball. Flowers same type as High Bush Cranberry, but both fruit and flowers borne upright on end of the branches. Fruit deep blood-red in color, and persists throughout the winter. Berries too bitter to use.

HIGH BUSH CRANBERRY (*Viburnum Americanum*)—A hardy native shrub with slender pendulant branches. Flowers are fringed with a row of sterile blossoms like the individual flowers of the snowball. Fruit hangs in clusters. Begins coloring early in summer and when fully ripe, bright scarlet. Fruit hangs pendulant from the branches and is one of the fruits on which the Cedar Wax Wing loves to feed. It is very desirable for jelly in combination with other fruits. The fall coloring of its foliage is very brilliant. Plant free from insects.

HONEYSUCKLE MORROWI—A shrub having drooping branches. The creamy white flowers produced in May are followed by bright red berries during the latter part of the summer. The foliage remains perfectly green after most all other honeysuckles have shed their leaves. Very showy in its fall fruit.

HONEYSUCKLE, TARTARIAN (Pink)—This is the best known variety in the western states and with its sub-varieties it can be found in nearly all ornamental plantings. All form vigorous upright shrubs from 6 to 8 feet in height and are valuable for their flower and red ornamental fruit alike. Has pink flowers in May and June.

HONEYSUCKLE TARTARIAN (White)—The well known white flowering variety. Otherwise similar to the Tartarian Honeysuckle Pink.

HOPA (Red Flowering Crab)—A beautiful ornamental tree for the front lawn on account of its profusion of deep rose crimson blossoms. When in bloom it presents a striking sight. The fruit is rather small, about an inch in diameter and bright red, borne in clusters, making it a thing of beauty. The fruit is not likely to be disturbed by boys as it is rather bitter, but makes a bright colored, highly flavored jelly. Perfectly hardy.

HYDRANGEA ARBORESCENS (Hills of Snow)—A late addition to the summer flowering shrubs, coming into bloom after all the early ones have passed away. Its appearance of hills of snow in the middle of summer gives it its name. Does well in the shade. It is a good practice to cut this shrub to the ground early each spring.

HYDRANGEA PANICULATA GRANDIFLORA—Very hardy; grows from 6 to 8 feet high; loaded in August and September with large spikes of flowers, ranging in size from 6 to 12 inches; color white, gradually changing to pink and rose colors. Fine for winter bouquets.

HYDRANGEA—**TREE FORM**—Same as the above, except that it is grown in standard or tree form.

JAPAN SNOWBALL (*Viburnum Tomentosum Plicatum*)—Of better habit than the familiar older form, with handsome plicate leaves and more delicately formed, white flowers.

JAPAN QUINCE (*Pyrus Japonica*)—Has bright scarlet-crimson flowers in great profusion in the early spring. One of the best shrubs in the catalogue. Not quite hardy at Charles City, Iowa.

KERRIA-JAPONICA (Globe Flower)—An attractive shrub with slender green branches, growing about 2 to 3 feet tall. Leaves bright green, sharply toothed. Flowers numerous, single, bright yellow, large and showy. June.

LILAC, BELLE DeNANCY—Large, double flowers of a charming purplish-red. Very neat, compact, dwarf bush.

LILAC, CHARLES JOLY—Flowers extra large, double, reddish-purple. A very fine variety of French lilac.

LILAC, CHARLES X.—A strong growing variety with large shining leaves. Loose trusses of reddish purple flowers. One of the best. Single flowering.

LILAC, CHINESE TREE—A large shrub, or small tree, with gracefully arching branches. Tree so thickly branched as to give a massed effect to the foliage and flowers. It bears a profusion of clusters of creamy white flowers. The pistils and stamens are quite prominent, giving the flower clusters a beautiful lacey appearance. The leaves are long and narrow, often not over $\frac{1}{2}$ of an inch across by 3 inches long. The tree is absolutely hardy, and flowers late in the season. In this section is as late as the middle of July.

LILAC, CHINENSIS ALBA—One of the finest French lilacs. Double white flowers. Fine, small foliage.

LILAC, JAPAN TREE—A species from Japan. Leaves thick, pointed, leathery and dark; flowers in very large panicles; creamy white and privet-like. Makes a tree 15 to 20 feet high at Charles City, Iowa, and is desirable because of its distinct foliage and late blooming.

LILAC, JOSIKAEA—8 to 10 feet. From Transylvania. A fine distinct species of vigorous upright growth with dark, shining leaves and violet purple flowers which appear very late, generally after the other lilacs are through blooming. June. Leaves very long, 3 to 5 inches, tapering at both ends, very deep green, leathery and waxy. The shrub is a strong grower and usually balloon shaped. Absolutely hardy.

LILAC, LUDWIG SPAETH—Panicles long. Individual flowers large, single, dark purplish red. A distinct and superb variety. May. 6 to 8 feet.

LILAC, MADAME CASIMIR-PERIER—White flowers in large graceful panicles. A profuse bloomer. One of the very best sorts. Double flowering.

LILAC, MME. LEMOINE—A choice variety of the Lilac, producing long racemes of double, white flowers, lasting longer than the single sorts. A valuable acquisition.

LILAC, MARIE LEGRAYE—One of the low growing types of the better lilacs, blooming in May. Pure white in color. Single blossom. Especially fine and fragrant.

LILAC, MICHEL BUCHNER—Plant dwarf, flower panicle erect and very large; very double, color pale lavender; distinct and fine.

LILAC, PERSIAN PURPLE—A native of Persia; rather a small plant, seldom growing over 6 to 8 feet; foliage small; flowers lavender. A profuse bloomer.

LILAC, PERSIAN WHITE—This rare lilac produces an abundance of white blossoms borne on graceful drooping branches.

LILAC, PRESIDENT GREVY—One of the new desirable lilacs, producing large double rose colored flowers.

LILAC, PURPLE—Plant highly recommended by many for use as an ornamental hedge.

LILAC, ROTHOMAGENSIS—A grand improvement on the common Persian Lilac. The flowers are larger and of a reddish purple color, produced in such great profusion as to almost bend the bush to the ground. Very fragrant.

LILAC, VILLOSA—A new Japanese variety; flowers small, but borne in large clusters. Light purple in bud, white when open. Foliage large and shaped like a plum leaf. This shrub is principally valued for its late

flowering, coming some three weeks after the other lilacs, and for the fragrance of its flowers, which is peculiar and very penetrating. This makes a very fine globe shaped plant and very distinct from other sorts.

LILAC, WHITE—The common white lilac.

PURPLE FRINGE (Smoke Tree)—Shrub or small tree from the south of Europe. Much admired for its curious fringe, or hair-like flowers and flower stems, that cover the whole surface of the plant in mid-summer, giving it a smokelike appearance.

PUSSY WILLOW—A very interesting shrub or dwarf tree, producing many furlike catkins, one to two inches long, up and down upright stems. Quite often these pearl-gray catkins have a touch of pink, and are delightful in winter bouquets. The branches can be cut any time in December, January or February; then place indoors in a vase of water. They will quickly burst forth into bloom. Remove water when in full bloom and they will retain their loveliness for months. Six to ten feet at maturity.

RED LEAF BARBERRY—The finest bright colored shrub. The leaves are a lustrous bronzy red, becoming scarlet through the summer, and in fall are a gorgeous, vivid orange-scarlet, followed by red berries which hang on all winter. Plant in full sunlight to develop its full color.

ROSE ACACIA (Robinia Hespida, sometimes known as Moss Locust or Pink Flowering Locust)—Very low and shrubby, with beautiful, clear pink flowers in loose racemes. All parts of the plant, except the flowers, are bristly or hairy; covered with a fine mossy substance like the moss-rose.

RHODOTYPOS KERRIOIDES (Jetbead)—A handsome, distinct and useful shrub. Becomes 4 to 5 feet tall; branches upright; leaves long, pointed, deeply toothed. Flowers white, an inch across. Black nutlets retained throughout the winter.

RUSSIAN OLIVE (Eleagnus Angustifolia)—

The foliage is covered with white down, which gives the tree a white appearance when in full leaf. The blossoms are small and very fragrant. The berries are light silvery, dotted thickly with fine brown specks. This tree should be clipped for hedge purposes, as it grows to a moderate-sized tree if given its own course.

SNOWBALL (Viburnum Opulus Sterilis)

(Guelder Rose)—A well known favorite shrub of large size, with globular clusters of pure white, sterile flowers the latter part of May. Generally blossom by Decoration Day.

SNOWBERRY, RED (or Indian Currant)—

Red-fruited. The berries are reddish purple and hang all winter.

SNOWBERRY, WHITE—A slow-growing plant, covered in the latter part of the summer and early fall with white berries about $\frac{1}{4}$ inch in diameter. Perfectly hardy. Adapted for shady places. It frequently flowers as late as July 15th.

SPIREA ANTHONY WATERER—Dwarfish shrub, seldom growing more than 2 feet high. Flowers bright rose color, and borne in great profusion. It begins blooming in June and continues until frost kills the flowers. Very desirable for a border or foundation planting.

SPIREA ARGUTA—A very graceful early flowering shrub coming into blossom 2 or 3 weeks before the Bridal Wreath. The slender arching branches are clothed with feathery bright green leaves. The blossoms are small and white, completely covering the bush. Beautiful for either foundation, groups or border planting.

SPIREA AUREA (Golden Spirea)—The principal value of this shrub comes from the color of its foliage. It is the most desirable yellow-leaved plant for this latitude. Blossoms white and borne in profusion. Individual clusters about 2 inches in diameter.

SPIREA BILLARDI—Rose-colored flowers in spikes. In bloom during July and August. Very hardy.

SPIREA BUMALDA—2 to 3 feet. July and August. Dwarf, but vigorous of habit; foliage narrow. Flowers rose color in compact corymbs.

SPIREA CALLOSA ALBA—An upright shrub, becoming 18 inches to 2 feet high. Very profuse bloomer, and continuing in flower throughout the summer. Flowers pure white, in flat topped clusters.

SPIREA CALLOSA RUBRA—A spreading shrub growing about 3 feet high, with large flat-topped clusters of rose colored flowers borne at the end of the stem. Branches not very thickly massed giving the plant a feathery, graceful appearance. This plant should be cut to the ground each spring. The foliage on all new wood is reddish purple, fading to green. A very attractive plant.

SPIREA FROEBELI—Dwarf, and similar to Anthony Waterer, but a trifle taller, with broader leaves. Dull crimson flowers in dense corymbs during the entire summer. Plant very hardy and of drooping habits. Stands drought better than any other spirea.

SPIREA OPULIFOLIA—(Nine-bark)—A tall shrub with spreading, often arching branches, growing 8 to 10 feet high. Grows naturally from Canada to Georgia, westward to Kansas. Leaves ovate, deeply lobed, bright

green and lustrous. Flowers whitish, in early summer, disposed in numerous clusters along the branches, very showy. The pods assume a bright red color, contrasting strongly with the foliage.

SPIREA OPULIFOLIA, DWARF—A dwarf variety of Nine-bark growing to a height of 4 to 5 feet. Very attractive, neat growing shrub. Flowers white, hanging in numerous clusters along the branches. Very desirable for foundation or group plantings.

SPIREA SORBIFOLIA (Ash-Leaved) (False Spirea)—Three to five feet. July. A vigorous growing shrub with large handsome foliage resembling that of a Mountain Ash. The white flowers are borne in elegant long spikes. The foliage appears very early in the spring. A desirable shrub in every way. Sometimes called Fern-Leaved Spirea.

SPIREA THUNBERGII—A beautiful shrub with numerous slender branches, forming a dense feathery bush 3 to 4 feet tall. Native of China and Japan. Leaves narrow, bright green, fading in autumn with brilliant tones of orange and scarlet. Flowers pure white, appearing in great profusion in earliest spring and covering the plant as with a mantle of snow. One of the last shrubs to shed its foliage.

SPIREA VAN HOUTTEI (Bridal Wreath)—A beautiful shrub, growing 4 to 6 feet high. Blossoms in clusters about $1\frac{1}{2}$ to 2 inches in diameter; flowers white and borne in great profusion, frequently covering the plant when in bloom. It is one of the finest shrubs we have for cemetery use, and also makes a beautiful ornamental hedge. It is perfectly hardy as far north as Northern Minnesota.

SUMAC AROMATIC (Fragrant)—A very fragrant shrub growing three to four feet in height. Picturesque and rugged. Flowers during June and July in dense, yellow terminal panicles, followed by impressive red fruits. Leaves turn brilliant red in fall.

SUMAC, CUT-LEAVED (Rhus Laciniata)—Finely divided, large, fern-like leaves, often 18 inches in length. New wood covered with a mossy growth, similar to the growth on a stag's horn. Leaves dark green above and glaucous beneath, changing to a rich red in autumn.

SUMAC, STAGHORN—A large shrub or small tree, sometimes growing to a height of 10 to 20 feet. This differs from the common Sumac in that the new wood is covered with a fine thorny substance closely resembling the moss on the horns of a stag soon after molting, hence the name.

SUMAC, SMOOTH (Rhus Glabra)—Handsome pinnate foliage, assuming splendid autumnal coloring. Showy spikes of crimson fruits which hang on all winter. Flowers in June.

SYRINGA CORONARIUS (Sweet Scented)—A vigorous growing, hardy shrub from 6 to 10 feet high; blossoms pure white; a very profuse bloomer.

SYRINGA, GOLDEN—A compact shrub with bright yellow foliage. Very effective as a foliage plant. Showy flowers.

SYRINGA GRANDIFLORA—Has very showy, large flowers, often 1½ inches in diameter. Branches long and frequently loaded to the ground with weight of flowers.

SYRINGA-LEMOINEI—A small shrub rarely attaining a height of more than 4 to 5 feet. Branches slender and bearing in June a profusion of flowers closely resembling the orange blossoms in size, form, color and fragrance, which is very desirable. The fragrance of this plant is so penetrating that a bouquet will fill a whole house with its fragrance.

SYRINGA, OR MOCK ORANGE—A vigorous-growing, hardy shrub, from 6 to 8 feet high; blossoms pure white; a very profuse bloomer; have seen this shrub 12 feet high, so loaded with bloom that its branches were bent to the ground. Leaf large and dark green.

SYRINGA VIRGINALIS—A magnificent new variety. Sometimes called the double flowering Syringa. The bush grows moderately tall with good foliage. The flowers are the largest, handsomest and most sweetly fragrant of any known variety of Syringa. It also has the longest flowering season.

TAMARIX-ODESSANA—A shrub or small tree of very graceful form, and clothed with soft, feathery, cedar-like foliage. Blooms freely, the branches fairly covered with small spikes of dainty pink flowers.

TAMARIX AFRICANA—Feathery foliage. Bright pink flowers in slender racemes in spring.

THORN APPLE (Crataegus Punctata) (Hawthorn)—A hardy native dwarf tree that is useful for specimen or as an ornamental planting. Very attractive when covered with its flat heads or clusters of white and pink flowers, maturing into red fruits.

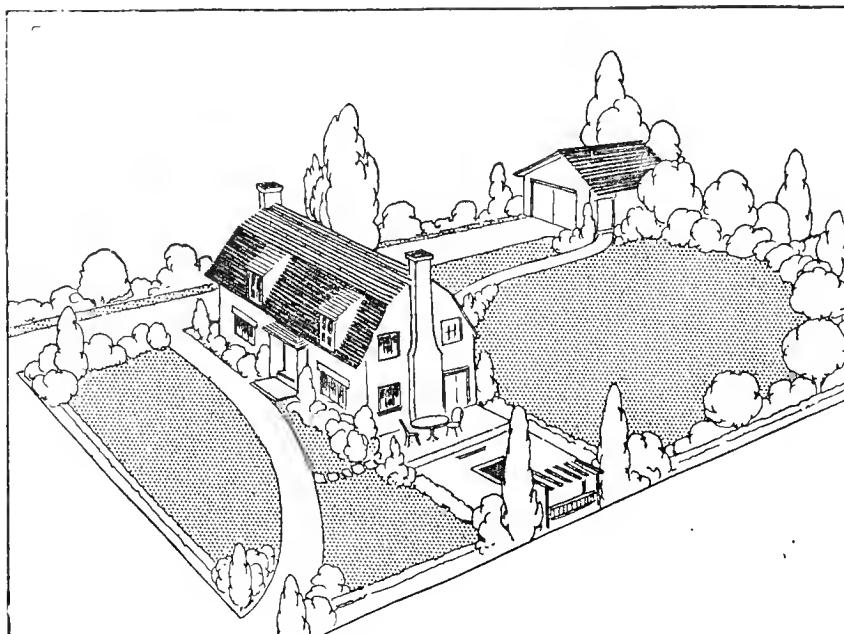
VIBURNUM DENTATUM (Arrow Wood)—Showy, glossy green foliage. White flowers in flat cymes, followed by deep, steel blue berries in September. A good plant for shady places. 6 to 8 feet.

VIBURNUM LANTANA (Wayfaring Tree)—Valuable for lawn borders. Soft, heavy, leathery leaves which hang until late in fall. White flowers in May, succeeded by red berries. Height 8 to 12 feet.

VIBURNUM LENTAGO (Nanny-berry) Black Haw—Shrub or small tree, flowers white, in flat topped clusters, 2 to 5 inches broad. Fruit edible, oval, bluish black.

WEIGELA, EVA RATHKE—A remarkably free bloomer, flowering continuously throughout the summer, of an entirely distinct color, being a rich ruby carmine, quite different from other varieties. Will bloom freely the first year.

WEIGELA ROSEA—An elegant shrub, with fine bell-shaped, rose-colored flowers. Introduced from China, and considered one of the finest plants. Of erect, compact growth. Blossoms in June.



Ready Reference for Selecting Shrubs

NAME	TIME OF BLOOM	COLOR OF FLOWER	AVERAGE HEIGHT	USE FOR WHICH SHRUB IS ADAPTED AND PROPER SPACING FOR PLANTING	PREFERRED LOCATION
ACER GINNALA (Japan Maple)			10-12 ft.	Groups, Mass. Planting, 3 to 5 ft.	Sun or partial shade
ALPINE HEDGE	May	Yellow	3- 5 ft.	Specimen, Mass or Group, 3 to 4 ft. Hedging, Clipped or Unclipped, 12 in. Hedge, 2 to 3 ft.	Sun or partial shade
ALTHEA, Double Flowering	August-September	Various	8-10 ft.	Group, 3 to 4 ft.	Sun or partial shade
ARALIA PENTAPHYLLA		Yellow	6- 8 ft.	Groups, Border, 2 to 3 ft.	Sun or partial shade
ARALIA SPINOSA (Hercules Club)	June	Yellow	5- 6 ft.	Specimen Groups, 3 to 5 ft.	Sun
ASH, WAFER (Hop Tree)			8-10 ft.	Border, 3 to 5 ft.	Sun or partial shade
BECHTEL'S CRAB (See Crab)					
BOX BARBERRY	June	Yellow	12-18 in.	Hedging, 1-8 in. Walk or bed Margins, 2-4 in.	Sun or partial shade
BARBERRY (See Jap. Barberry)					
BUCKTHORN	June-July		4- 6 ft.	Border or Foundation, 2-3 ft. Hedging, 12-18 in.	Sun
BUFFALO BERRY	June	Yellow	3- 4 ft.	Mass, 2-3 ft. Border, 1-2 ft.	Sun or partial shade
BUTTERFLY BUSH (Buddleia)	August-September	Beautiful Lilac	3- 4 ft.	Border, Foundation, 1-2 ft.	Sun or partial shade, sheltered
CALYCANTHUS (Sweetshrub)	June	Reddish Brown	3- 4 ft.	Specimen, Border or Foundation, 2-3 ft.	Sun, sheltered
CORNUS AMOMUM (Silky Dogwood)	June	White	6- 8 ft.	Mass, Group, Border, 3 ft.	Sun or partial shade
CORNUS ELEGANTISSIMA (Variegated Dogwood)	June	White	6- 8 ft.	Use sparingly for group or mass planting, 3 ft.	Sun or partial shade
CORNUS PANICULATA	May	White		Specimen, Mass, Border, 3 ft.	Sun or partial shade
CORNUS SANGUINEA (Red Branched Dogwood)	June	Cream	8 ft.	Mass, Group, Border, 3 ft.	Sun or partial shade
CORNUS SIBIRICA (Coral Dogwood)	June-July	White	6-10 ft.	Border, 3 ft.	Sun or partial shade
CORNUS STOLONIFERA	June	White	4- 6 ft.	Mass, Border, 3 ft.	Sun or partial shade
COTONEASTER (Acutifolia)	May	Pink	4- 5 ft.	Hedge, 1 ft. Group, 2-3 ft.	Sun
CRAB, BECHTEL'S DOUBLE FLOWERING	May	Delicate Pink	6-12 ft.	Specimen. Gets to be 8 ft. or more across top.	Either sun or partial shade
CRAB, SCHEIDECKERI	May	Light Rose	6-12 ft.	Specimen. Gets to be 8 ft. or more across top.	Either sun or partial shade
DEUTZIA LEMOINEI	June	White	3- 4 ft.	Foundation, Group, 2-3 ft.	Sun
DEUTZIA—PRIDE OF ROCHESTER	May	White	2- 3 ft.	Foundation, Group, 2-3 ft.	Sun
DOGWOOD (See Cornus)					
DOUBLE FLOWERING PLUM (Prunus Triloba)	May	Light Pink	6-10 ft.	Specimen, Mass. Gets to be 8 ft. or more across top.	Either sun or shade
ELDER, CUT-LEAVED	June	White	4-6 ft.	Mass, Border, 3-4 ft.	Partial shade
ELDER, CUT-LEAVED GOLDEN	July	White	5- 8 ft.	Mass, Border, 3-4 ft.	Partial shade
ELDER, GOLDEN	July	White	5- 8 ft.	Border, 3-4 ft.	Sun
ELDER, RED BERRIED	May	White	6- 8 ft.	Border, 3-4 ft.	Sun
EUONYMUS (Strawberry Bush)	June	Yellow- Scarlet	8 ft.	Border, 3-4 ft.	Sun or shade
EXOCHORDA GRANDIFLORA (Pearl Bush)	May	White	5- 6 ft.	Border, 3-4 ft.	Sun or shade
FLOWERING ALMOND (Double Pink)	May	Pink	2- 4 ft.	Foundation, Specimen, 2-3 ft.	Sun
FLOWERING ALMOND (Double White)	May	White	2- 4 ft.	Foundation, Specimen, 2-3 ft.	Sun
FORSYTHIA INTERMEDIA (Upright Golden Bell)	April	Yellow	6- 8 ft.	Border, Foundation, Mass, 2-3 ft.	Sun
FORSYTHIA SPECTABILIS (Golden Bell)	April	Yellow	4- 6 ft.	Border, Foundation, Mass, 2-3 ft.	Sun
FORSYTHIA SUSPENSA	April	Yellow	4- 6 ft.	Good ground cover for terraces, 2-3 ft.	Sun
HANSEN'S PURPLE PLUM	May-June	Deep Purple	6-12 ft.	Specimen, Border, 3-4 ft.	Sun
HAWTHORN (Thornapple)	May	White Pink	8-10 ft.	Specimen, Border, 3-4 ft.	Sun, Partial shade
HAZELNUT			4- 8 ft.	Border, 3-4 ft.	Sun
HERCULES CLUB (See Aralia)					
HIGH BUSH CRANBERRY (Americanum)	May-June	White	6- 8 ft.	Border, Mass, Specimen, 3-4 ft.	Sun
HIGH BUSH CRANBERRY (Viburnum Opulus, European)	May-June	White	6- 8 ft.	Border, Mass, Specimen, 3-4 ft.	Sun
HONEYSUCKLE, MORROWII	May	Creamy White	6- 8 ft.	Mass, Border, Foundation, Group, 3 ft.	Sun, partial shade
HONEYSUCKLE, TARTARIAN PINK	May-June	Pink	6- 8 ft.	Mass, 3-4 ft. Border, 3-4 ft. Group, 3-4 ft. Hedge, 18 in.	Sun or shade

Sherman Nursery Company, Charles City, Iowa

NAME	Time of Bloom	Color of Flower	Average Height	Use for Which Shrub is Adapted, and Proper Spacing for Planting	Preferred Location
HONEYSUCKLE, TARTARIAN WHITE	May-June	White	6- 8 ft.	Mass, 3-4 ft. Border, 3-4 ft. Group, 3-4 ft. Hedge, 18 in.	Sun or shade
HOP TREE (See Ash, Wafer)					
HYDRANGEA ARBORESCENS (Hills of Snow)	July to September	White	4- 6 ft.	Mass. Foundation. Group. Border, 3-4 ft.	Sun or partial shade
HYDRANGEA, Paniculata Grandiflora	August-September	White changing to pink	6- 8 ft.	Mass. Border. Group. Foundation, 3-4 ft.	Sun or shade
HYDRANGEA, Paniculata Grandiflora (Tree Form)	August-September	White changing to pink	8-10 ft.	Specimen	Sun or shade
JAPANESE BARBERRY	June	Yellow	3-3½ ft.	Hedge, 12 in. Mass, 2-3 ft. Border, 2-3 ft. Group, 2-3 ft. Foundation, 2-3 ft.	Sun
JAPANESE TREE LILAC	June-July	Creamy White	15-20 ft.	Specimen	Sun, partial shade
JAPAN QUINCE	April	Scarlet Crimson	3- 4 ft.	Group, 2-3 ft.	Sheltered, sunny location
JAPAN SNOWBALL	June	White	6- 8 ft.	Group. Mass. Border, 3 ft.	Sun or shade
KERRIA, JAPONICA	June	Bright Yellow	2- 3 ft.	Mass. Foundation, 2-3 ft.	Sheltered, sunny location
LILAC, BELLE DE NANCY	May	Purplish-Red	4-5 ft.	Mass Group, Border. 3-4 ft.	Sun or partial shade
LILAC, CHARLES JOLY	May	Purple-Red	6-8 ft.	Mass Group, Border. 3-4 ft.	Sun or partial shade
LILAC, CHARLES X	May	Reddish Purple	6- 8 ft.	Mass. Border. Specimen. Group, 3-4 ft.	Sun or partial shade
LILAC, CHINENSIS ALBA	May	White	6-8 ft.	Mass Group, Border. 3-4 ft.	Sun or partial shade
LILAC, CHINESE TREE	July	Creamy White	8-12 ft.	Specimen	Sun or partial shade
LILAC, JAPANESE TREE (See Japanese Tree Lilac)					
LILAC, JOSIKEA	June-July	Violet Purple	8-10 ft.	Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade
LILAC, LUDWIG SPAETH	May	Dark Purple	6- 8 ft.	Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade
LILAC, MME. CASIMIER PERIER	May	Creamy White	6- 8 ft.	Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade
LILAC, MME. LEMOINE	May	White	6- 8 ft.	Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade
LILAC, MARIE LEGRAYE	May	White	6- 8 ft.	Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade
LILAC, MICHEL BUCHNER	May	Pale Lavender	6- 8 ft.	Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade
LILAC, PERSIAN PURPLE	May-June	Lavender	6- 8 ft.	Foundation. Mass. Group. Border. Specimen, 3-4 ft.	Sun or partial shade
LILAC, PERSIAN WHITE	May-June	White	6- 8 ft.	Foundation. Mass. Group. Border. Specimen, 3-4 ft.	Sun or partial shade
LILAC, PRESIDENT GREVY	May	Rose	6- 8 ft.	Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade
LILAC, PURPLE	May	Purple	8-10 ft.	Mass, 3-4 ft. Border, 3-4 ft. Hedge, 18 in.	Sun or partial shade
LILAC, ROTHOMAGENSIS	May-June	Reddish Purple	6- 8 ft.	Mass. Group, Border, 3-4 ft. Hedge, 18 in.	Sun or partial shade
LILAC, VILLOSA	June-July	Light Lavender, turning to White	5- 6 ft.	Mass. Group. Border, 3-4 ft.	Sun or partial shade
LILAC, WHITE	May	White	10-12 ft.	Mass. Group. Border, 3-4 ft.	Sun or partial shade
NINEBARK (see Spirea Opulifolia)					
PEARL BUSII (See Exochordia)					
PRIDE OF ROCHESTER (See Deutzia)			6- 8 ft.		
PRIVET, AMOOR RIVER	May-June	White	6- 8 ft.	Hedge, 12 in. Border, 2-3 ft.	Sun
PRIVET, CALIFORNIA	July	White	4- 5 ft.	Hedge, 12 in.	Sun
PRUNUS PISSARDI (Purple Leaved Plum)					
PRUNUS TRILLOBA (See Double Flowering Plum)					
PURPLE FRINGE (Smoke Tree)	June	Yellow Green	8-10 ft.	Specimen. Mass, 2-3 ft.	Sun
PURPLE PLUM (See Hansen's, also Prunus Pissardi)					
PUSSY WILLOW	March-April	Pearly Gray Catkins	6-10 ft.	Mass Group, Border. 3-4 ft.	Sun
RHODOTYPOS KERRIOIDES	May-June	White	4- 5 ft.	Foundation. Mass, 2-3 ft.	Sun or partial shade
ROSE OF SHARON (See Althea)					
RUSSIAN OLIVE (Eleagnus Angustifolia)	June	Yellow		Hedge, 12 in.	Sun
SALIX URALENSIS (Hedgewood)				Hedge, 12 in.	Sun
SNOWBALL COMMON (Viburnum Opulus Sterilis or Guelder Rose)	Last of May	White	6- 8 ft.	Mass. Border. Group, 3-4 ft.	Sun or shade
SNOWBALL, JAPAN (See Japan Snowball)					

NAME	Time of Bloom	Color of Flower	Average Height	Use for Which Shrub is Adapted, and Proper Spacing for Planting	Location Preferred
SNOWBERRY, RED (Indian Currant)	July	Pink	3- 4 ft.	Mass., Border, Group, Foundation, 2-3 ft.	Sun or shade
SNOWBERRY, WHITE (Symphoricarpos Mollis)	July	Pink	3- 1 ft.	Foundation, 2-3 ft., Mass., Border, Group.	Sun or shade
SNOWBERRY, WHITE (Symphoricarpos Racemosus)	July	Pink	3- 1 ft.	Mass., Border, Group, Foundation, 2-3 ft.	Sun or shade
SPIREA, ANTHONY WATFREY	June until frost	Rose	1½-2 ft.	Foundation, Group, Border, 18-24 in.	Sun
SPIREA ARGUTA	May	White	1- 6 ft.	Foundation, Group, Border, 2-3 ft.	Sun
SPIREA AUREA (Golden)	June	White	6- 8 ft.	Mass., Border, 3-4 ft.	Sun
SPIREA BILLARDI	July-August	Bright Pink	1- 5 ft.	Foundation, Mass., Border, 3-4 ft.	Sun
SPIREA BI'MALDA	July-August	Rose	2- 3 ft.	Foundation, Group, Mass, 2-3 ft.	Sun
SPIREA CALLOSA ALBA	All Summer	White	1½-2 ft.	Foundation, Group, Mass, 18-21 in.	Sun
SPIREA CALLOSA RUBRA	June to August	Rose	3 ft.	Foundation, Group, Mass, 2-3 ft.	Sun
SPIREA DOUGLASI	June-Aug.	Light-Red	5- 6 ft.	Foundation, Group, Border, 2-3 ft.	Sun or shade
SPIREA FROEBELLI	June to September	Dull Crimson	2- 3 ft.	Hedge 12 in., Foundation, Group, Mass, 2-3 ft.	Sun or shade
SPIREA OPULIFOLIA (Ninebark)	Early Summer	Dull White	8-10 ft.	Mass., Group, Border, 3-4 ft.	Sun or shade
SPIREA OPULIFOLIA DWARF (Dwarf Ninebark)	June to Sept.	White	4-5 ft.	Foundation, Border, 2-3 ft.	Sun or shade
SPIREA SORBIFOLIA (Ash Leaved)	July	White	3- 5 ft.	Mass., Group, Border, 3-4 ft.	Sun or shade
SPIREA SUPERBA	June-July	Pale Lavender	2 ft.	Mass., Foundation, Group, 2-3 ft.	Shade
SPIREA THUNBERGII	April-May	Pure White	3- 4 ft.	Hedges, 18 in., Mass., Group, Foundation, 2-3 ft.	Sun
SPIREA VAN HOUTTEI (Bridal Wreath)	May	White	6 ft.	Foundation, Mass., Group, Border, 2-3 ft.	Sun, partial shade
SUMAC, AROMATIC (Fragrant)	June-July	Yellow	3-4 ft.	Mass, Group, Border, 2-3 ft.	Sun or partial shade
SUMAC, CUT LEAVED	June-July	Yellow	8-10 ft.	Mass., Border, 3-4 ft.	Sun or partial shade
SUMAC, SMOOTH (Rhus Glabra)	June-July	Yellow	10-12 ft.	Mass., Border, 3-4 ft.	Sun or partial shade
SUMAC, STAGHORN	June-July	Yellow	10-20 ft.	Mass., Border, 3-4 ft.	Sun or partial shade
SWEET SCENTED SHRUB (See Calycanthus)					
SYMPHORICARPOS (See Snowberry)					
SYRINGA, CORONARIUS	May-June	Pure White	6- 8 ft.	Mass., Border, 3-4 ft.	Sun
SYRINGA, GOLDEN	June-May	White	4- 6 ft.	Mass., Border, Foundation, 2-3 ft.	Sun
SYRINGA, GRANDIFLORA	May-June	White	6- 8 ft.	Mass., Border, 3-4 ft.	Sun
SYRINGA, LEMOINEI	Early June	White	4- 5 ft.	Foundation, Mass., Border, 2-3 ft.	Sun
SYRINGA OR MOCK ORANGE	May-June	White	6- 8 ft.	Mass., Border, 3-4 ft.	Sun
SYRINGA VIRGINALIS	June-August	White	5- 6 ft.	Mass., Specimen, 4-6 ft.	Sun or partial shade
TAMARIX AFRICANA	April-May	Pink	6-10 ft.	Mass., Group, Border, 3-4 ft.	Sun Protected
TAMARIX, ODESSANA	July-August	Lavender	4- 6 ft.	Mass., Group, Border, 3-4 ft.	Sun Protected
THORNAPPLE (See Hawthorn)					
TREE LILAC (See Japanese Lilac, also Lilac Chinese)					
TREE ROSE (See Crab, Bechtel's)					
VIBURNUM DENTATUM (Arrow Wood)	May-June	White	6- 8 ft.	Mass., Group, Border, 3-4 ft.	Sun or partial shade
VIBURNUM LANTANA (Wayfaring Tree)	May	White	8-12 ft.	Mass., Group, Border, 3-4 ft.	Sun or partial shade
VIBURNUM LENTAGO (Nanny-berry)	May-June	White	6-10 ft.	Mass., Group, Border, 3-4 ft.	Sun or partial shade
WAYFARING TREE (See Viburnum Lantana)					
WEIGELIA EVA RATHKE	June-July	Ruby Carmine	4- 5 ft.	Foundation, Border, 2-3 ft.	Sun or partial shade
WEIGELIA ROSEA	June-July	Rose	4- 5 ft.	Foundation, Border, 2-3 ft.	Sun or partial shade
WEIGELIA, VARIEGATED	June-July	Ruby Carmine	4- 5 ft.	Foundation, Border, 2-3 ft.	Sun or partial shade

Hedges

A hedge is a living fence. There is such a wide variety of hedging that a type can be found for every need. To the nurseryman the word "hedge" has meant any row of plant material, from a row of low growing perennials to a windbreak forty feet high.

However, in popular landscape talk, the average person when he says "hedge" is thinking of a single row of one variety of shrub of an average height. Such a hedge is usually placed to identify property lines, screen the vegetable garden and service yard, form a background for a rose garden or perennial garden, or to prevent trespassing.

Planting and Caring for the Hedge

In order to obtain dense growth, all hedge plants should be set deep enough so the lower branches leave the stem just below the surface of the ground, and they should be trimmed back heavily as soon as set. This will force the plants to branch freely and will keep them dense close to the ground.

When trimming a hedge, trim so the bottom is wider than the top, as shown in the drawing. This will permit the sunlight to reach every branch and keep it healthy.

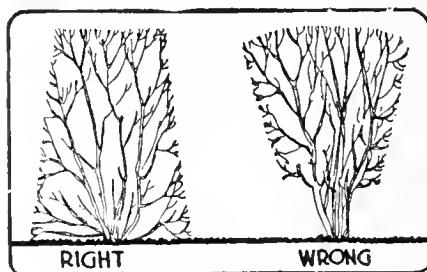
ALPINE CurrANT—The best of all low growing hedges. Distinctive and artistic in appearance. May be trimmed to any desired shape and height from 12 inches to 36 inches. Very dense foliage, not affected by insects or other pests. Holds branches close to ground. Extremely hardy. Alpine is one of the earliest shrubs to break leaf in the spring and holds its leaves late in the fall. We recommend it very highly.

ARBOR VITAE, AMERICAN (Thuya Oeodentalis, or White Cedar)—This is a thrifty growing tree with bright green foliage, hardy anywhere. It is especially recommended for screens, hedges or windbreaks, as it responds well to trimming.

BARBERRY THUNBERGII (Japanese Barberry)—This variety is very unique, and forms a compact, round-headed shrub about 3 to 3½ feet high. Branches very thorny. It is greatly admired. Not a wheat rust carrier. One of the finest plants for clipped hedges or specimen plants. Leaves are very fine in their fall color and in winter plants are thickly strewn with scarlet berries.

BOX BARBERRY—A dwarf type of the above, attaining about one-half its size in its final growth. Leaves small and very dense, allowing of close clipping. Particularly useful for edgings around formal flower beds, margins of plantings and along walks. Can easily be kept to 6 to 8 inches in height or diameter. Also in our cold region used to take the place of the Boxwood of the sunnier climes. Clipped as single specimens either round or pyramidal, it is very effective.

How to Trim Hedges



BUCKTHORN (4 to 6 feet) JUNE-JULY—One of the best plants for ornamental hedges. The ovate, dark green leaves are attractive throughout the seasons. Flowers small and inconspicuous. Branches are thorny. The black fruits are about the size of a pea. It stands shearing well and is easily kept trimmed to any desired height and form.

CARAGANA (Siberian Pea Tree)—A tall growing hedge, very adapted to semi-arid sections of the Northwest. Extremely hardy and drought-resisting. Sometimes used as a snow-catch or low windbreak. Has numerous yellow, tapering twigs and very small pinnate leaves of golden-green color. Small yellow flowers. A fine shrub for low screens. No plant has gained such a rapid popularity as the Caragana, especially through the semi-arid sections of the Northwest. It seems to thrive in dry seasons, and therefore used quite extensively throughout the West as a snow-catch or low windbreak. It is the one tree which is absolutely impervious to the hot winds or extreme droughts of Montana and Western Dakota.

LILAC, PURPLE—Plant highly recommended by many for use as an ornamental hedge.

PRIVET, AMOOR RIVER (North)—One of the finest for ornamental hedges south of Central Iowa. It holds its leaves until severely cold weather arrives. When grown untrimmed, it is very beautiful, as it blooms freely, producing a profusion of small panicles of white flowers followed by purplish berries that hang on all winter.

PRIVET—CALIFORNIA—A vigorous variety, with fine habit and foliage. Not hardy north of Des Moines, Iowa.

RUSSIAN OLIVE (Eleagnus Angustifolia)—The foliage is covered with white down, which gives the tree a white appearance when in full leaf. The blossoms are small and very fragrant. The berries are light silvery, dotted thickly with fine brown specks. This tree should be clipped for hedge purposes, as it grows to a moderate-sized tree if given its own course.

SALIX URALENSIS—We are offering something new in hedges—Salix Uralensis. This

hedge is a very thrifty and rapid grower. Its olive green foliage and reddish-brown twigs give it an air of individuality not enjoyed by the common hedges. It looks better when trimmed, but not trimmed it will widen out, keeping about as wide as it is high. Can be kept trimmed from two to six feet in height.

SPIREA FROEBELI—Dwarf, and similar to Anthony Waterer, but a trifle taller, with broader leaves, dull crimson flowers in dense corymbs during the entire summer. Plant very hardy and of drooping habits. Stands drought better than any other spirea.

SPIREA THUNBERGII—A beautiful shrub with numerous slender branches, forming a dense feathery bush 3 to 4 feet tall. Native of China and Japan. Leaves narrow, bright green, fading in autumn with brilliant tones of orange and scarlet. Flowers pure white, appearing in great profusion in earliest

spring and covering the plant as with a mantle of snow. One of the last shrubs to shed its foliage.

SPIREA VAN HOUTTEI (Sometimes called Bridal Wreath)—A beautiful shrub, growing 4 to 6 feet high. Blossoms in clusters about 1½ to 2 inches in diameter; flowers white and borne in great profusion, frequently covering the plant when in bloom. It is one of the finest shrubs we have for cemetery use, and also makes a beautiful ornamental hedge. It is perfectly hardy as far north as Northern Minnesota.

TARTARIAN HONEYSUCKLE—Pink. This is the best known variety in the western states and with its sub-varieties it can be found in nearly all ornamental plantings. All form vigorous upright shrubs from 8 to 12 feet in height and are valuable for their flower and red ornamental fruit alike. Has pink flowers in May and June.

Vines

How vines twine themselves about our homes and our affections!

They are as necessary for shade and beauty in their way as trees, shrubs and perennials. They lend beauty to every scene when properly selected and placed, and aside from the beauty inherent in themselves they may be made doubly effective by concealing unsightly and ugly places.

Vines finish the landscape plans much as wall decorations and drapes complete the furnishings in the house. However, to get good results in the exterior decoration, it is necessary to know something of vines and their proper uses. When we study them closely we find three distinct types.

1. Those that attach themselves by winding their bodies about their support, as the bittersweet.

2. Those that attach themselves by twining tendrils, such as five-leaved ivy.

3. Those that attach themselves to smooth surfaces by a vacuum similar to the foot of a fly, like Ampelopsis Engelmanni.

When planting vines to cover walls, plant at least 2 feet from the wall, 3 feet if possible, because near the wall the earth often contains broken stones and rubble, and rubbish without plant food. When the shoots get a 2 or 3 foot start, dig a 3-inch-deep trench for each shoot, from the root to the wall, in various directions, and bury the shoots in the trenches, letting the ends come up in the shape of a fan just at the foot of the wall. This permits mowing without danger of cutting the vines at the base, it permits the roots to get more moisture, and gives the roots more room to expand and better soil.

Notice the letters following the description of each variety and consult this chart to determine the uses for which each vine is suited:

- (A)—For porches, fences, trellises or arbors.
- (B)—For large arbors and pergolas where large growth is needed.
- (C)—For rough walls and garden walls.
- (D)—For walls.
- (E)—For ground work on banks.
- (F)—For carpeting under trees.

AMPELOPSIS ENGELMANNI (Engelman's Creeper)—A clinging form of American Ivy, but shorter jointed than *Quinquefolia*. A rapid grower, often climbing 10 feet in a single season. The best vine known for covering stone or mason work. This vine clings to mason work by a small pad at the end of tendril which operates like a fly's foot. C and D.

AMPELOPSIS QUINQUEFOLIA (Woodbine)—The common American Ivy, Five-Leaved Ivy, or Virginia Creeper. A, B, C, F.

AMPELOPSIS VEITCHII (Japan Creeper) (Boston Ivy)—Three-lobed leaves smaller than those of the American, and over-lap one another, forming a dense sheet of green. The plant is a little tender while young, and requires protection the first winter; but once established there is no further risk. It grows rapidly and clings to wall or fence with the tenacity of ivy; the foliage is very handsome in summer, and changes to crimson-scarlet in autumn. For covering walls, stumps of

trees, rockeries, etc., no plant is so useful. For the ornamentation of brick and stone structures, it can be especially recommended. Not recommended north of Iowa. C and D.

BITTERSWEET—A rapid growing, twining vine, with ornamental, light green foliage. The yellow flowers in June are followed by bright yellow and crimson fruits in the autumn. A very desirable plant for covering trees and trellis work; particularly fine for pergolas. A, C, F.

CHINESE MATRIMONY VINE—This is a medium-sized creeper or trailer, attaining a maximum height of 20 feet. The foliage is of a grayish green. The flowers which appear from June to September vary through shades of pink to purple. The fruit which follows is of a deep crimson and very showy. It is borne abundantly along the entire length of the branches. The foliage remains fresh until severe frosts. A, B, C, E.

CHINESE YELLOW HONEYSUCKLE—A showy vine with purplish evergreen foliage. Native of China. Leaves ovate, purple when young, changing to greener tones at maturity. Flowers white, changing to yellow, sweetly fragrant, freely produced in summer. A, B.

CLEMATIS COCCINEA—Small, bright coral-red; inverted bell-shaped; open but little. Very peculiar. Hardy and attractive. It climbs by twining around objects by its leaf stems. A.

CLEMATIS HENRYI (Winter Clematis)—Creamy white; large and of fine shape; a free grower and bloomer. One of the finest of the large-flowered Clematis. The foliage is very handsome and sets off the white flowers beautifully. A.

CLEMATIS JACKMANII—Flowers, when fully expanded, are 4 to 6 inches in diameter, intense violet-purple, with a rich, velvety appearance, distinctly veined. It blooms continually from July until cut off by frost. A.

CLEMATIS MADAME EDWARD ANDRE—Has been called the Crimson Jackmanii. The plant is a strong, vigorous grower, and very free in bloom. Color a distinct crimson-red. Entirely distinct from all other varieties. A.

CLEMATIS PANICULATA (Sweet Autumn)—Of very rapid growth, quickly covering trellises and arbors with handsome, clean glossy foliage. The flowers are of medium size, fragrant, pure white, borne in immense sheets in September, when very few other vines are in bloom. This plant is hardy without protection. Prefer bright sunny location. A, B, C, D, E.

CLEMATIS RECTA—Flowers white, sweet-scented and in immense masses. Rare and excellent. Plant grows in bush form from 3 to 4 feet. E.

DUTCHMAN'S PIPE (Aristolochia Siphon)—A magnificent hardy vine of rapid growth, with very large, heart-shaped leaves and brownish flowers, resembling in shape an old-fashioned Dutch pipe. Splendid for archways or verandas, as it is a very rapid grower and forms a dense, cool shade on the hottest summer days. A, B, E.

HALL'S JAPAN HONEYSUCKLE—Deep green foliage, which is almost evergreen through the winter, the fragrant yellow and white flowers blooming until frost. Its flowers are much beloved by humming birds, which can be seen hovering over them all summer. A, B, E.

SCARLET TRUMPET HONEYSUCKLE—One of the most desirable of our native twining plants. Foliage glossy and a little on the sage-green order. Flowers trumpet-shaped, about 1½ inches long, with a salmon shade, with red on the inner side of trumpet. Flowers borne in clusters, and continue all summer. A, B, C.

TRUMPET FLOWER (Bignonia Radicans)—A vine closely resembling the Wistaria. Flowers borne in small clusters; blossoms 2 inches in length by ¾ inch in diameter. Very showy, but not quite hardy enough for our climate here. A, B, C, D.

WISTARIA-PURPLE—One of the most attractive and rapid growing of all climbing plants; attains an immense size. Has long, pendulous clusters of lavender flowers, resembling sweet peas, in May and June, and in autumn. Especially adapted for porch and arbor planting. A, B, C, D.

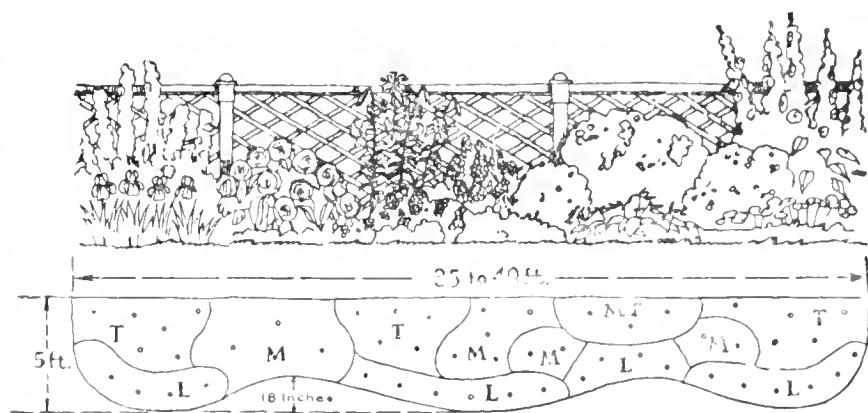
WISTARIA-WHITE—Same as purple, excepting that the flowers are clear white; bunches short; free blooming. A, B, C, D.

Hardy Herbaceous Perennials

Herbaceous plants are those having soft stalks, dying down to the roots each fall. Hardy herbaceous perennials are those which may be allowed to remain permanently in the ground, their stem and foliage dying each autumn, coming up with renewed vigor the following spring as the result of the increased root system.

This class of flowering plants have a strong appeal to all home makers. Once planted they bring forth a mass of bloom in varied colors and shades. Their flower stalks ranging from a few inches to several feet in height, allow many choices of locations where they may be used effectively. Use perennials among or in front of the foundation and border planting, in beds along walks and drives, in the rock garden and around the pool.

The accompanying diagram shows a perennial border which can be adapted to almost any location. The places marked T should be planted to tall growing plants, the places marked M to medium growing, and the spaces marked L planted to low growing perennials. MT signifies medium-tall. This plan is appropriate for use in front of a hedge or background of shrubbery, or in front of lattice work, as illustrated.



Planting Directions

In planting perennials, work the soil until it is free of big lumps and air pockets.

1. The majority of perennials are of the crown type and these should be planted with the crown on the level of the dirt line. Larkspur, phlox and foxglove are well known plants of this type.

2. Hollyhocks and plants with similar roots should be planted straight down with the bud just below the surface of the dirt.

3. Peonies and other plants with similar roots should be planted with the tips of the buds at or just below the surface of the ground.

4. Iris and other such perennials should be planted with the main root just below the ground, or sometimes partly exposed.

In planting perennials, as in all other kinds of planting, spread the roots naturally and water the roots, not the top.

ACHILLEA (Yarrow)—Of easiest culture and very valuable for borders and rock work, or in situations refused by more tender plants. Make good carpets in dry places. June to September. One to two feet.

ANTHEMIS (Hardy Marguerite)—Glowing-yellow, daisy-like flowers, with handsome, finely cut foliage, make it a very desirable perennial. Wonderful, free flowering, blooming all summer long. They should be in every border planting.

ARABIS COMPACTA (Rock Cress)—From Arabia, where it is supposed to have originated. Small trailing perennials grown mostly in rock work and the Alpine garden because of their natural hardihood and their early and profuse flowering habits.

ALPINE COMPACTA—Pure white flowers in dense masses, for edging border, and lovely for cut blooms, lasting a long while in water. Nine inches tall. Blooms April and May.

ASTER (Michaelmas Daisy)—From Aster— a star; referring to the general shape of the flower heads. These stand unrivaled for their brilliant shades of color and extreme profusion of bloom during the autumn months. They are invaluable for the border and for cut flowers. Very hardy and easily grown, deservedly the popular perennials that they are. The list of varieties below does not contain any of the weedy sorts:

Perry's Blue—A great beauty. Has much branched, erect dark stems covered with rich lavender-blue flowers standing out alone, the effect being loose pyramidal heads. Three feet. August and September.

Robert Parker—Large sprays of beautiful large, soft lavender-blue flowers with yellow centers; extra fine; a valuable cut flower. Five feet. August and September.

Snowflake—Pure snow-white; very free. 18 inches. August and September.

ANCHUSA (Italica Dropmore)—A great improvement on the old Italian Alkanet; gentian-blue flowers that make it one of the most desirable perennials. Four to five feet. All summer.

AQUILEGIA (Rocky Mountain Columbine)—One foot. July and August. Very large flowers, often four inches across with deep blue sepals and pure white petals and four long recurved spurs. A fine species for the border or base of rockery in well drained loam; also does well in good garden soil.

AQUILEGIA - COLUMBINE (Canadensis)—Very pretty scarlet flowers mixed with yellow, long straight spurs, styles and stamens much protruding. 1 to 2 feet. May to July.

AQUILEGIA - COLUMBINE (Chrysanthea)—Sepals primrose-yellow, spreading horizontally in full expansion, tinted claret at the tip; limb of petals deeper yellow; spur straight and very slender; stems many-flowered. One of the finest of all hardy perennials for the border. 3 to 4 feet. May to July.

AQUILEGIA-COLUMBINE (Long Spurred Hybrid)—A very beautiful hybrid form, with the sepals and petals yellowish or tinged with orange, while the long, slender spurs are orange-red; it is one of the handsomest of all. 2 feet. May to July.

BABY'S BREATH (Gypsophila paniculata)—A most graceful plant, excellent for the border. Numerous small flowers in feathery panicles. Very useful for cutting. Light pink. July to August. 2 to 3 feet.

BLEEDING HEART (Dycentra Spectabilis)—A hardy perennial with heart-shaped, rose-colored flowers in drooping spikes. One of the best border plants; perfectly hardy and easily cultivated; 2 feet high. Flowers in April and May.

BLEEDING HEART (Everblooming)—Cut fern-leaf foliage, dark green, retains foliage until late in the summer, very beautiful, blossoms profusely during the entire summer. For best results, flowers should be cut when through blossoming. 2 to 3 feet.

CANNA—The canna provides the nearest approach to the rich tropical effects that the north can supply. They grow rapidly and bloom for a long season, succeeding in sunny positions in almost any kind of soil and responding quickly to liberal treatment by gorgousness of bloom, size of foliage and height of stems.

CANTERBURY BELL (Campanula Medium)—Beautiful garden plants of easy culture. Flowers bell-shaped in spreading racemes; colors, shades of pink, purple and white, sometimes double. 2 to 3 feet. June to July.

CARDINAL FLOWER—(See Lobelia).

CARPATICA (Blue Hare-Bell)—A pretty compact species, not exceeding eight inches high, flower bells 1 inch in diameter. This is a fine border plant. All summer.

CHINESE LANTERN—Very much in demand because of its wealth of bright, orange-scarlet, lantern-like fruits in autumn. Very fine for winter bouquets.

CHRYSANTHEMUMS—We have a splendid assortment of these lovely flowers that are so beautiful in late autumn, white, pink or yellow. 2 to 3 feet. September to October.

COREOPSIS (Golden Wave) (Coreopsis Basalis)—One of the most popular hardy plants. The flowers are a rich golden yellow, of graceful form, and invaluable for cutting: the main crop comes during the latter part of June, but it continues in bloom the entire summer and autumn. It succeeds everywhere. 1 to 2 feet.

DIGITALIS (Fox-Glove)—From digitale—the finger of a glove; in allusion to the resemblance the flower bears to the finger of a glove. Prof. Bailey says of them in his encyclopedia: "A fine genus of hardy plants, famous for their long racemes of inflated flowers, which suggest spires or towers of bells. They are old-fashioned and dignified, clean of growth and wholesome company in the choicest garden. The strong vertical lines of the flower stalks, rising from rich and luxuriant masses of leaves, give always an appearance of strength to the rambling outlines of the usual herbaceous border and for the two weeks of their bloom usually dominate the whole border." Of the easiest culture and preferring partial shade. 2 to 3 feet. June or early July.

FORGET-ME-NOT (M. Palustris)—Very dwarf; flowers bright blue with yellow eye. 6 to 8 inches. May to June.

FOX-GLOVE—(See Digitalis).

GAILLARDIA (Blanket Flower)—Amongst hardy perennial plants, Gaillardias are conspicuous for profusion and duration of bloom. The striking flowers produce a gorgous effect in the border, and are highly recommended for cut-flower purposes, lasting a long time in water, and being gathered with ample, self-supporting stems. 18 inches to 3 feet. June to November.

GOLDEN GLOW (Rudbeckia Laciniata)—Two to six feet. July to September. Very large, double, dahlia-like flowers of a brilliant, golden yellow color. These are borne in great masses surmounting the plant and make it an extremely showy plant.

HARDY SWEET PEAS—These everlasting Peas are but little known in this country, but are great favorites in England. They are extremely showy and fine. Charming climbers for covering trellises, and arbors. Continuously in bloom. Fine for cutting.

HIBISCUS—(See Mallow).

HOLLYHOCKS (Althea Rosea)—These beautiful, much appreciated flowers make excellent screens and their tall flowering spikes and gay colors make them very decorative. We have them in assorted colors, pink, white, red and yellow. 5 to 8 feet. August.

ICELAND POPPY—Very neat habit of growth, forming a tuft of bright green foliage from which spring, throughout the entire season, a profusion of slender, leafless stems one foot high, each graced with charming cup-shaped flowers. Very valuable in the sunny border or rockery. Produce brilliant flowers all summer.

LARKSPUR (Delphinium)—Well known and valuable perennial plants with ornamental foliage. They are all free-flowering and of easy culture. The tall growing sorts are admirable for the back portion of the border and for grouping among shrubs. By preventing the flowers from going to seed, the plants will bloom continually until hard frosts. 2 to 6 feet. June to September.

Belladonna (Everblooming Hardy Larkspur)—The most beautiful sky-blue Larkspur of dwarf habit. Makes a grand border plant, producing numerous spikes of large single flowers. Flowers all summer until cut down by frost. Two to six feet.

Chinese (Grandiflorum or Chinese Larkspur)—Fine feathery foliage and deep gentian blue flowers. 2 feet. June, July and August.

English or Gold Medal Hybrids—Extra choice seedlings. The seed from which we grow our stock of these is procured from the best European specialists and produces the finest spikes of bloom, over 6 feet high with double and single flowers in all shades from the deepest indigo to the palest silvery blue, many possessing shades of pink and white. We furnish strong plants in light or dark blue colors, separate or all colors mixed. June to September.

Formosum—Deep gentian blue with white center; long spikes. 18 inches to 2 feet. June-July.

LOBELIA CARDINALIS (Indian Pink) (Cardinal Flower)—Flowers vivid crimson; one of the most showy of all native flowers; for the moist border. 2 to 4 feet.

MALLOW (Hibiscus)—A very showy plant in any position, but succeeds especially well in

damp places. Very large, single, hollyhock-like flowers produced during the entire summer. About 2 to 4 feet. Colors red, pink and white. June to September.

ORIENTAL POPPY—Large flowering. The most showy plant for a garden and should be planted early. 3 to 3½ feet. June to July.

PHYSOSTEGIA (False Dragon Head)—Handsome mid-summer flowering plants 2 to 3 feet high, bearing broad, dense, conspicuous spikes of tubular flowers.

PINKS, HARDY—Spicy, fragrant pink flowers. Continuous bloomers, offering an abundance of fragrant flowers all summer. Work in very nicely into the foreground and edging groups.

PINKS, CHINA—Very beautiful. Sweet scented, double and semi-double flowers in great diversity of color.

PLATYCODON (Balloon Flower)—2 feet. July-September. A veritable giant Harebell, forming a dense, branched bush of upright habit with attractive foliage and from July until September bearing a constant succession of conspicuous, bell-shaped flowers varying in color from pure white to deepest blue. Has also been called "balloon flower" owing to the peculiar formation of the bud.

PYRETHRUM-ULIGINOSUM (Giant Daisy)—A very bold and strong-growing species, having a handsome and distinct appearance when covered with a profusion of its daisy-like blossoms. Perfectly hardy and prefers a sheltered position. 4 to 5 feet. May-June.

ROCKY MOUNTAIN COLUMBINE (See Aquilegia).

SALICARIA (Lythrum)—A shrubby perennial growing 3 to 5 feet in height. They thrive best in cool, moist locations, although they are also successful in the average border and among shrubs. Flowers are borne freely in long terminal racemes from June to September. Bright rose color.

SALVIA (Blue Sage)—Very attractive in August and September with its profusion of sky-blue flowers. 1 to 5 feet.

SHASTA DAISY—Blooms all summer. Height 12 to 15 inches. Color white. This is a hybrid from Luther Burbank, remarkable for its large size, grace and beauty. The flowers are often 4 inches in diameter with numerous petals which are pure white with a yellow center.

SPIREA FILIPENDULA (Dropwort)—Foliage fern-like and dark green. Flowers in large, irregular clusters. Good for the border or rockery. 1 to 2 feet. Cremn white blossoms. June and July.

STATICE (Sorbifolia) (Mist Flower)—A feathery growing plant about 18 to 24 inches in height. Very easy of cultivation and a free grower. The whole plant being covered with tiny white or light blue flowers, the petals of which hang on after plant is withered and

dried. Especially useful for mixing with other flowers for bouquets. July to September.

SWEET WILLIAM (Dianthus) — 18 inches. June-July. Germany. An old flower garden favorite. It sports into endless varieties of color—white, pink, purple, crimson and scarlet, and many sorts variously edged, eyed or spotted.

TRITOMA (Red Hot Poker) — Rich, orange-scarlet blooms borne on stems three feet high. Very attractive for mass planting or singly in the border. In bloom from August to October. Requires slight winter protection for best blooms.

VERONICA-SPEEDWELL (Cancerwort) — A medieval name of doubtful origin, probably from *hiera eicon*—a sacred image; in allusion to the legend of the sacred handkerchief from St. Veronica. A large and much cultivated group of blue-flowered perennials, great favorites in the hardy garden. The taller forms are very pretty border plants, while the more dwarf, spreading forms are well adapted to the rockery. Unexcelled for cutting purposes.

VERONICA-SPICATA — Regarded as one of the better border Speedwells, thriving in an open soil away from shade; clear blue flowers with purple stamens. 2 to 4 feet. June.

VIOLA (Horned Violet) — A much prized, early bedding plant. Very large violet colored flowers. 5 to 8 inches. April to September.

Phlox

The phlox is the most important of our late flowering perennials. It is a strong, hardy plant from 12 to 30 inches high and produces large flowers in showy spikes or helmets in late summer and early fall.

For several years we have been gathering from many sources the most showy, many-hued varieties of phlox to be found and now we have every variety that we believe is entirely satisfactory in the middle west.

For best results plant several in a group in separate beds or if they can be backed up by other or taller plants or shrubs it adds to their gorgeous display.

Plant six or eight inches apart for mass effect in any good soil.

B. COMTE — Vividly colored cherry red.

BARON VON HEECKERN — Delicate salmon pink.

BEACON — Good sized, cherry red.

CHAMPS ELYSEES — Bright rosy-magenta.

CHAS. H. MAYO — Very large, white, with crimson center.

COQUELICOT — Glowing orange red, with violet eye.

COMMANDER — Brilliant deep crimson red with slightly darker eye.

ECLAIREUR — Bright rosy-carmine, with light halo.

FIANCEE — Very dwarf, producing extra large flowers of purest waxy white.

F. A. BUCHNER — Splendid mid-season bloomer. Tall. White.

FUERBRAND — Brilliant orange scarlet, almost vermillion.

GEN. VON HEUTZ — Soft salmon red with carmine and white center.

HINDENBURG — Crimson red with darker eye.

H. O. WIJERS — White with red center; very pretty.

JULES SANDAU — Dwarfish. Large flower, pure pink.

LOTHAIR — Very fine. Bright crimson.

MRS. JENKINS — Pure white.

PANTHEON — Rose pink, free bloomer.

PROF. VIRCHOW — Bright carmine, overlaid with orange-scarlet.

RHEINLANDER — Beautiful, large, salmon pink, deep red eye.

RYNDSTROM — Deep pink, tall.

R. P. STRUTHERS — Rosy carmine with claret eye; very bright, tall.

SEIBOLD — Bright orange-scarlet; crimson eye.

THOR — Free flowering of a beautiful deep shade of salmon pink.

VON HOCKBERG — Brilliant red.

WIDAR — Bright reddish-violet. Large white center.

Iris

Plant Irises where other things will not grow. They will stand the test of almost any location. Use Irises to give you pride of ownership; for profit derived from their self-propagating qualities; for market or the house; standing in the community; and hours of communion with their magic spell of hidden beauty.

YELLOW AND BROWN

ABU HASSON — Gold standards; falls streaked with brown and gold.

HER MAJESTY — Late; standards soft rose; falls red, deeply veined.

MRS. A. W. BLAKELY — Standards yellow tinged with pink; falls yellow with dividing line in center; lighter border. 28 inch.

PROSPER LAUGIER — Standards fiery bronze; falls Indian purple. 30 inch.

SHERWIN WRIGHT — Bright deep yellow. One of the best of the old standard varieties. 24 inch.

GOLDEN BLUE

LOHENGRIN — Pink silver mauve shading to white. A tall grower with wide leaves. Extra nice flower.

QUAKER LADY — Standards smoky lavender with yellow shadings; falls blue and old gold. 38 inch.

LIGHT BLUE

JUANITA — Standards and falls clear blue. Tallest of the bearded irises. Large, fragrant flowers.

MADAM CHEREAU—Mid-season; standards and falls pure white with clear frilled lavender edge. 42 inch.

PALLIDA DALMATICA—Delicate lavender; similar to Zanardalia.

ZANARDALIA—Light blue; beautifully shaped petals. 36 inch.

DARK BLUE

CORDELIA—Violet standards, purple falls. Blends nicely with Rhein Nixe.

MONSIGNOR—Late; standards richest satiny

velvet; falls heavily veined deep purple-crimson. Very large flower. 28 inch.

RHEIN NIXE—White standards; falls violet blue with white margins. A great favorite. 36 inch.

SPECIOSA—Dark blue, or nearly purple.

RED

SEMINOLE—Standards dark violet rose; falls rich velvety crimson, brilliant orange beard. Rich in color and a wonderful effect in mass. Mid-season. 28 inch.

Peonies

Peonies are a class of perennials that deserve special attention.

These magnificent plants are among the showiest and choicest in our gardens. The fragrance and delicate tints and shades of their beautiful flowers command them, and in addition, all those we list here are absolutely hardy and easily grown.

There are hundreds of varieties of peonies, and while we grow several acres of them, we have confined our selection to the best varieties, taking into consideration the color and quality of bloom and the vigor and hardiness of the plant and foliage. We believe that we have listed absolutely the best varieties for the middle west.

Culture—Peonies thrive best in a deep moist loam, well enriched, with full exposure to the sun. The plants should be set two or three inches below the surface of the ground, and are benefited by an annual top-dressing of compost.

AVALANCHE—White. Strong grower, profuse bloomer, fragrant.

BARONESS SCHROEDER—White, fringed petals. Delicate odor.

CAROLINE MATHER—Bright rosy-red. When in full bloom has a purplish tint. Mid-season.

DUCHESS DE NEMOURS—Beautiful new white peony, flowers large and double, fragrant.

EDULIS SUPERBA—Very early, shell pink, generally in blossom Decoration Day.

EUGENE VERDIER—Pink. Rose type, early. Outer petals lilac white. Very erect, rather dwarf in habit.

FESTIVA MAXIMA PEONY—Creamy white with small center of crimson, sweet-scented.

FRANCIS ORTEGAT—Very dark red, almost purple; large double compact flowers, sweet scented.

HUMEI PEONY—Beautiful bright pink, shading to rose; very large, late; one of the best.



LA PERLE—Very large, compact, globular flowers. White overlaid with lilac-blush center flecked crimson.

LE MARTIN—Deep rose-red; stamens forming collar of gold; double flowers.

LOUIS VAN HOUTTEI—Deep velvety crimson, flowers medium size, very fragrant.

MME. DUCHI—Double, late. Shell pink. Desirable cut flowers.

MME. EMILY LEMOINE—White, semi-rose type, mid-season. A strong grower and free bloomer; rare and beautiful.

MODESTE—Deep rose, bright showy, fragrant.

MONSIEUR JULES ELIE—Pink. Glossy flesh pink shading to a deeper rose at the base, the entire bloom covered with a silvery sheen. Strong grower. Very fragrant.

OFFICINALIS RUBRA—Red. Very early and large. Blooms about same time as Tenutolio. A better flower but not fern leaf.

REINE HOSTENSE—Pink. Very large, compact. Color a uniform hydrangea pink minutely splashed on a white background, with the center prominently flecked with crimson.

TRIUMPH DU NORD—Rose red; double.

Canna

Stately and highly ornamental plants, for both flowers and foliage. They attain a height of 2 to 5 feet and may be grown singly or in masses. Leaves green or brownish red; flowers scarlet, crimson, yellow, cream, etc., variously marked. Bloom early July until frost. Cannas must be dug up and kept from frost during the winter. Plant tuber 2 inches deep below surface and 18 inches apart.

Dahlias

These summer and autumn-flowering plants are more popular than ever. They should not be planted until the weather has become warm and settled in spring, and should be taken up before severe frosts in autumn. They require a sunny situation and rich soil, to bring out their full beauty. One shoot only should be allowed to each root. Roots should be kept in a warm, dry place during winter. 3 to 6 ft. July to October.

Gladioli

During recent years, the Gladioli have come into great favor, the numerous blooms starting to open well down the tall spike and opening upward successively, often covering a flowering period of two weeks. Their many shades of color lend variation both in the garden and for cut flowers. 18 inches to 3 feet. June to September. Must be dug up in fall.

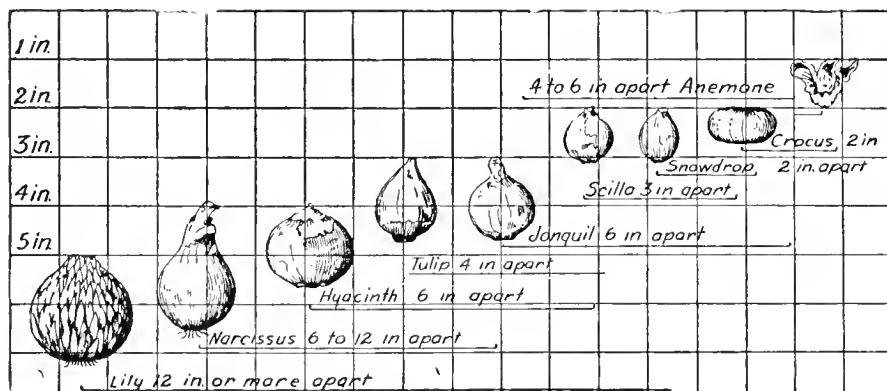
Bulbs for Fall Planting

TULIPS—Bare indeed would many gardens be in the early spring were it not for the tulips. Their gorgeous showing is always a welcome one. Very easily grown. Should be planted in October and November.

CROCUS—Always a favorite and one of the earliest garden ornaments. Plant about 2

inches deep. Colors blue, white, yellow and striped.

HYACINTHS—For fragrance and beauty of bloom Hyacinths have no equal among bulbs. They do splendidly when planted in formal beds or naturalized in groups, or when grown in pots for indoor blooming.



Depth to Plant Bulbs

Lilies

The name lily at once suggests the splendor of the gardens of the long ago. Their praise has been sung through the literature of all the ages and today no flower is displayed with greater pride of possession by its owner than the lily.

Light, well drained soil is preferred by this flower; a handful or two of sand under each bulb is a help to them that the bulb may not get soggy. They like to send their roots through this to moist soil below. Give them plenty of water, a top dressing of well rotted manure or commercial fertilizer and they are happy.

Plant in the edges of your shrub border or foundation planting so that the base of the plant at least is partially shaded, allowing them to come up through the foliage of the other plants, and they will give a striking and showy contrast in color effects. The following list will give a succession of bloom from Decoration Day until frost, and return each spring to brighten your garden. For depth to plant bulbs, see chart on page 62.

AURATUM (Gold Banded Lily)—Blooms July and August. Height 3 feet. Color, ivory-white, thickly marked with reddish chocolate dots. Immense bell-shaped flowers borne in clusters on long, stiff stalks. The most beautiful and popular variety of all the Lily family and should be in every garden. Plant 8 to 12 inches deep—1 foot apart.

CORN—Foliage pale green, very long, slender and pointed. Flowers borne in clusters, and the individual flowers last but for one day. The Lily is salmon color, tinged with red. Perfectly hardy. Blooms July and August. Plant crown of the tuber 2 inches below surface and 8 to 12 inches apart.

DOUBLE TIGER LILY—Richly colored blooms like the single Tiger Lily, but double clear to the center. Very hardy and desirable. The only double flowering lily.

ELEGANS LILY—A beautiful orange-red lily, but with considerable variety of shades and spotting.

FUNKIA BLUE (Day Lily)—Flowers light blue on showy spikes one to two feet. July and August. Beautiful glossy foliage. Plant crowns 2 inches below surface and 12 inches apart.

LANCEOLATUM ALBUM—Same as *Lilium Lancifolium Rubrum*, with the exception that the plant is not quite so rank a grower. The flower is a pure waxy white. Perfectly

hardy in this latitude. Blooms June-July. Plant 8 to 12 inches deep—1 foot apart.

LANCEOLATUM RUBRUM—This we think beyond question the hardiest of all of the Japanese Lilies. The plant grows to the height of about 18 to 24 inches. Foliage dark green and lance-like, hence the name. Flowers borne in clusters of from five to twenty, pink at margin of petal, deep rose color in center, thickly dotted with brown; petals curling back like petals of the Tiger Lily. We regard it as perfectly hardy. Blooms June, July and August. Plant 8 to 12 inches deep and 1 foot apart.

LEMON—A pretty stalk, with long, narrow leaves, and flower stalks 2 to 3 feet high, crowned by beautiful lemon-colored flowers, 3 to 4 inches in diameter; fragrant. Almost always in bloom on Decoration Day. Place crown of plant 2 inches below surface and 8 to 12 inches apart.

LILY OF THE VALLEY—Almost always in bloom on Decoration Day. Height 6 to 10 inches. Heavy dark green foliage, with small, bell-shaped, pure white flowers in pretty racemes, graceful and extremely fragrant. Requires rich, moist soil. Succeeds best in partial shade. Plant crowns 2 inches below surface and 3 inches apart.

REGAL LILY—The Grandest Lily in the garden. Magnificent, large blossoms of white, lightly suffused pink, with beautiful canary-yellow center. Delightfully fragrant. Flowers borne in thick clusters on tall, strong stems, often four to five feet high. Very hardy and easy to grow. The most popular Lily of today, due to its rare beauty and superb coloring.

TIGER LILY—Very common; color orange-salmon, spotted dark brown. Stems 3 to 5 feet high. Flowers numerous, nodding. A native of China and Japan. Blooms in July and August. Plant 8 inches deep and a foot apart.

YUCCA FILAMENTOSA (Common Yucca)
This variety is distinguished from the other Yuccas in that it has threads or filaments along the margins of the leaves. This plant throws up flower-stalks which grow to the height of about 5 to 6 feet, branching in tree form, and when in full bloom are loaded with tulip-shaped, pendulous, white flowers. In this latitude, the plant should have a light covering of straw, or some light material, to give the best results. It is better planted on rather dry land.

Roses

The Rose has justly been called the Queen of Flowers. More time, money and people are occupied in its culture, and more pleasure derived from it, than in any other flower. While other plants receive greater attention in certain latitudes and at certain periods, the rose is the universal favorite at all times and in all places.

Outdoor Roses are of the widest importance, as they are within the reach of all, and with judicious selections, will furnish bloom for even a longer period than the hothouse varieties. The average house does not furnish the temperature and facilities for successful rose culture, and so the garden becomes the center of interest for lovers of the flower.

In the North, roses may be enjoyed in almost the same profusion as elsewhere—with the exception of Southern California—provided the few simple conditions necessary for their growth be given them.

Sunlight—The first requisite is plenty of sunlight. It will not do to plant them in a shady place, for the sun is needed to warm the soil and stimulate the root system.

Moisture—The next most important requirement is moisture. This can only be made certain by some provision for irrigating the ground during the dry periods. It can be taken from the water system of the town, or a good cheap plan is to have a tank or reservoir filled from a well by a windmill. Water should be applied by thoroughly soaking the ground so that it is full of moisture, much as a hard rain of several hours would do it. When in bloom the blossoms should not be showered or sprayed too much, but the water should run on the ground in little ditches from one bush to another until it has taken up all that it will. The time to irrigate is before the ground is dry and the plants suffering from thirst. Do not spray the surface of the ground and imagine that the roots have had enough. Be liberal when you do water them and then let them go until they need more. Usually the ground is wet enough early in the spring; but it is sometimes dry at that season, and the roots need a wetting the first thing after they are uncovered. During the month of October do not water the ground, but allow the growth to stop and the wood to ripen for winter.

Soil—The ideal soil for roses is a good rich clay loam. They will do well in sandy soil if a little clay and plenty of rich manure is mixed with it, and it is then generously watered. They will not do well in hard clay that is impervious to water or in gravel that drains it all away.

Cultivation—This is very important for it helps to stimulate the action of the roots by quickly imparting to them the food and drink that is applied to the ground. After fertilizers are applied they should be cultivated in; and when the ground is irrigated it should be

allowed to dry a little on the surface and then stirred to make it fine and loose so as to prevent evaporation and drying out. Surface cultivation should be given the ground at least once a week, from the time the bushes are uncovered until October.

Protection—In late fall, before severe freezing weather sets in, choose a dry time to cover the bushes. See that the ground is thoroughly wet so that the roots will not dry out during the winter, for it will be a long time before they will have another chance to take a drink.

In wintering roses the main thing is to keep the bushes dry. I have found the best way to do this is to first make a bed of dry straw or leaves for the bushes to lie on. It should be six or more inches deep. Bend the bushes over and lay them gently on the bed and cover them with two feet of dry straw, making it highest in the middle, much like the roof of a house. Then cover the straw with boards. Short pieces can be nailed to a ridge pole and to a strip at the lower end, making it quite steep so as to shed water easily; or boards can be used horizontally, by commencing at the base of the straw on each side, lapping the topboards an inch and using enough nails to hold them in place. A narrow board at the top can hold the two sides together. Put boards at the end to keep out the wet and to hold the straw in place. Leaves or hay can be used in place of straw. Do not uncover in the spring until freezing weather is over, but uncover before they start their growth. Where there is danger from mice, place poisoned grain (see page 22) in small boxes near the plants, where they will find it and where any that may be left in the spring may be burned up when uncovering the plants.

Planting—The best time to plant is in early spring before the bushes have started to grow. They should be set two to three inches deeper than they grew in the nursery. Mud the roots in thick mud before planting and set them very firmly. As soon as set cut branches back to within six inches of the main stem; this is important.

Pruning—Keep all old dead branches cut out. In the spring, prune the tops back to about two-thirds of their length and cut off all the tops that look black or dry back to the fresh buds.

Diseases and Insects—As in everything else the old saying, "An ounce of prevention is worth a pound of cure," holds good in this case. The best way to prevent disease in rose bushes is to give them good cultivation and do all that is necessary to secure a strong vigorous growth. Disease always attacks the weak more quickly than the strong, and this fact must be carefully borne in mind. Thorough cultivation is absolutely necessary in combatting disease and insects.

For all these pests it is best to be ready and give them their medicine before they have had time to do much damage or increase in numbers. "The early bird catches the worm."

Mildew—Sudden changes of temperature may cause mildew, and it cannot be prevented as it can in the greenhouse. Dusting the bushes with sulphur will assist in preventing it. Keep up the cultivation, furnish moisture, and as the weather grows warm again the plants will revive and outgrow the disease.

The Red Spider—Is most likely to attack the bushes when it is dry and warm. They are very small and are not discovered until they have become numerous. The bushes begin to look unhealthy and the leaves have a sickly appearance and will begin to drop off unless the insects are killed before they have reached the last stages of disease. They can be controlled by spraying with cold water and keeping the bushes quite damp. Morning is the best time in which to do it, and the under part of the leaves requires special attention.

Hybrid Perpetual Roses are the result of the crossing of various types of the old-fashioned hardy perpetual blooming varieties of this and foreign countries, and are more hardy than the Hybrid Teas.

Hybrid Tea Roses, sometimes called monthly ever-blooming roses, are the results of crossing of the Hybrid Perpetual varieties with the class known as Tea Roses such as are used in greenhouses for forcing. This last cross is more productive of flowers but not quite as hardy.

The Hybrid Tea Roses should be protected in winter by mounding up dirt eight or ten inches about each plant and covering as directed under "Protection."

Hybrid Rugosa is a cross of the extremely hardy Japanese Rugosa Rose with our Hybrid Perpetual varieties. These crosses are usually very hardy and stand the severe winters of Northern Minnesota and the Dakotas.

Distance Apart to Plant—Moss Rose, Harrison Yellow and the Rugosa Roses may be set 2 to 3 feet apart—Hybrid Perpetual and Hybrid Tea varieties, 1½ to 2 feet.

In the list which follows, H. P. after the name indicates Hybrid Perpetual; H. T., Hybrid Tea; H. R., Hybrid Rugosa; C., Climbing Roses, and M., Moss varieties.

AMERICAN BEAUTY—(H. P.) One of the largest and most beautiful of all the hardy roses. A strong grower and continuous bloomer. Flowers very large, double, of rich deep rosy crimson. Very fragrant. For cut flowers it reigns supreme.

AMERICAN PILLAR—(C.) A single-flowering variety of great beauty, which appeals to everyone. The flowers are of enormous size, 3 to 4 inches across, of a lovely shade of pink, with a clear white eye and cluster

of yellow stamens. These flowers are borne in immense bunches, and a large plant in full bloom is a sight not easily forgotten. They last in perfection a long time, and are followed by brilliant red berries, which are carried late into the winter; and as the plant frequently retains its lovely green foliage until the end of November, it forms a beautiful decorative subject throughout the autumn months.

BABY RAMBLER—(H. P.) A wonderful little novelty, with large trusses of bright crimson flowers similar to those of Crimson Rambler. But instead of climbing, the plants form compact bushes not over eighteen inches high. Strictly a bedding rose, and most desirable in pots. This plant can be potted in the fall after it has shed its leaves, taken inside and flowered in the house.

BABY RAMBLER (White)—(H. P.) Identical with the above except blossoms are an ivory white.

BABY RAMBLER (Pink)—(H. P.) Same as the above except blossoms are pink.

BELLE POITEVINE—(H. R.) An extremely vigorous grower. Very hardy. Large, double flowers of clear rose-pink. Every tip laden with immense pink bouquets. Very attractive.

CHAS. K. DOUGLAS—(H. T.) A very fine bright red rose which is becoming very popular as its merits are known. Flowers are large, semi-double, brilliant light crimson with a scarlet undertone, and are produced in great numbers throughout the season.

CLIMBING AMERICAN BEAUTY—(C.) A very popular early bloomer producing a profusion of long-stemmed, fragrant flowers often three inches in diameter and red in color. The long stems make this one of the most desirable Climbing Roses for cutting. On the porch trellis it is magnificent, with the flowers almost covering the entire vine. Perfectly hardy.

COLUMBIA—(H. T.) One of the best bedding and cutting roses. Beautifully formed buds of lovely pink, deepening in color as they open. Large, very free flowering, and so fragrant.

CONRAD E. MEYER—(H. R.) Large elegantly formed buds and flowers, 3½ to 4 inches across and perfectly double; color, silvery pink, very fragrant. Entirely hardy and desirable in every way.

CRIMSON RAMBLER—(C.) The famous Crimson-clustered climber, so extremely effective when grown on pillars and trellises. Makes shoots 8 to 10 feet long in a season. Flowers are produced, from ground to tip, in large, pyramidal clusters of thirty to forty. Combined with the waxy pale green, red-veined foliage, the crimson mass of bloom makes an irresistible effect.

DOROTHY PERKINS—(C.) Clear, shell-pink, with flowers borne in clusters; full and double, with crinkled petals. The foliage stays on until winter. This is, without question, one of the very finest and hardiest of all climbing roses.

E. G. HILL—(H. T.) Constantly produces beautiful buds on long stems which open into large, full, fragrant blooms of velvety crimson. Considered by many to be the finest red rose.

EARL OF DUFFERIN—(H. P.) Rich, dark crimson, shading to maroon; large, full; fragrant; a good grower; one of the best dark roses.

EXCELSA—(C.) The flowers are very double, produced in large clusters of thirty to forty, and almost every eye on a shoot produces clusters. Intense crimson-maroon, the tips of the petals tinged with scarlet.

FRAU KARL DRUSCHKI—(H. P.) The grandest of all white roses. Flowers of immense size, frequently called White American Beauty.

F. J. GROOTENDORST—(H. R.) This hybrid is unlike any other Rugosa in having the beauty and freedom of bloom of the Baby Ramblers, but with the rugged foliage and hardiness of the Rugosa. It was originated by a Holland nurseryman and introduced by F. J. Grootendorst, for whom it is named. In luxuriance of bloom, and in sturdiness, this rose has fairly leaped into the greatest popularity. Blooms continually all summer. Splendid for low hedges or edgings.

FLOWER OF FAIRFIELD—(C.) An ever-blooming variety of the Crimson Rambler. The color and habit are identical with that variety, with the exception that it blooms the entire season.

GENERAL JACQUEMINOT—(H. P.) Brilliant crimson; not full, but large and extremely effective; fragrant and of excellent hardy habit; forces well.

GRUSS AN TEPLITZ—(H. T.) Scarlet, shading to velvety crimson; very fragrant; a free grower and most profuse bloomer; handsome foliage; especially valuable as a bedding rose.

HANSA—(H. R.) Reddish violet; very double. Absolutely hardy and requires no winter protection.

HUGONIS—(H. R.) The "Golden Rose of China." In May and June this graceful, shrub-like plant is a shower of gold, the arching branches completely covered with beautiful two-inch single flowers of canary yellow. Unusual finely cut foliage. Tufted stamens. An extremely hardy and dependable rose. Splendid for the foreground of shrubbery groups or in the corners of the rose garden.

J. B. CLARK—(H. P.) A most vigorous grower. Very hardy. A profuse bloomer with large, well-formed buds and bright crimson flowers opening oftentimes to three inches or more across. Has tendency to bloom the second time in fall.

J. J. L. MOCK—(H. T.) A magnificent rose whose loveliness defies description. Extra-large blooms on long stems. Petals silvery pink on inside and deep, bright pink on outside.

K. A. VICTORIA—(H. T.) The most perfect white everblooming rose. Well formed, compact, pointed buds which develop into snowy white flowers, unusually double and fragrant. Fine for cutting. Has bushy habit of growth. A continuous bloomer and a universal favorite.

LADY HILLINGDON—(L. T.) This is one of the finest of the deep apricot yellow roses. The buds are long and pointed and very attractive. It is a hardy, vigorous, outdoor rose and is highly recommended for your garden.

LOS ANGELES—(H. T.) A beautiful rose. Coral pink toned with golden yellow. Very fragrant, which makes it extremely popular with our customers.

MAGNA CHARTA—(H. P.) A hybrid that is very fine early in the season. Color bright rose; large and full.

MARSHALL P. WILDER—(H. P.) It is of vigorous growth, with healthy foliage; flowers large, semi-globular, full, well formed; color cherry-carmine. It continues to bloom profusely long after others are out of flower. It is undoubtedly the finest of its color.

MRS. AARON WARD—(H. T.) Few roses attract so much attention as this beautiful French introduction. In color it is a distinct shade of Indian-yellow, which, as the flower expands, shades lighter toward the edges, making a splendid color combination, which is more decided in dry than in wet weather, the yellow shading sometimes disappearing almost entirely in extended periods of wet, cold weather; one of the freest-flowering varieties in our collection.

MRS. CHAS. BELL—(H. T.) The shell-pink Radiance, with an exquisite salmon background. Hardy, steady bloomer. Very sweetly perfumed. Strong, vigorous grower.

MRS. JOHN LAING—(H. P.) An exceptionally handsome and free-blooming rose, of vigorous growth and fine habit. The color is a soft and delicate shade of pink; the flower is large and well-formed, very fragrant and produced on good stems. A variety of especial value, as it blooms continuously in the open ground.

OPHELIA—(H. T.) Salmon pink, fading to white. Excellent form. Strong grower, free bloomer and a most excellent rose.

PADRE—(H. T.) An improved form of Mme. Edw. Herriot and even more brilliant color. Intense orange-red. A tall-growing rose, very free bloomer. Foliage healthy.

PAUL NEYRON—(H. P.) The largest rose in cultivation, sometimes called the Peony Rose; color bright, fresh cerise-red. The plant makes a strong, healthy growth, and has clean, glossy foliage; blooms almost without intermission from June until late October.

PAUL'S SCARLET CLIMBER—(C.) The brightest and purest red of all pillar roses. Vivid scarlet shaded crimson, semi-double flowers in clusters, that retain their color till they fall, never turning blue, the color being intensified by the numerous yellow stamens. A vigorous grower with a profusion of bloom that remains for a long season.

PERSIAN YELLOW—(H. P.) Bright yellow. Small but quite double. Foliage faintly scented.

PINK MOSS—(M.) Deep pink buds surrounded with delicate fringe-like moss. The most beautiful of all the Moss Roses.

PINK RADIANCE—(H. T.) Most popular rose in all America. Very large, beautiful blooms of silvery pink shading to salmon. Borne on tall, strong stems in great abundance. Very fragrant.

PREMIER—(H. T.) A magnificent variety of large size and distinct character; very deep rose color, the broad roll of the outer petals creating most interesting lights and shadows. It is practically thornless.

PRESIDENT HOOVER—(H. T.) The wonderful new Hybrid Tea Rose that became so popular over night. Rich in contrast with its maroon, orange and gold colorings. Large buds and blooms on tall, stiff stems that are ideal. A heavy bloomer. In great demand. Supply limited.

RADIANCE—(H. T.) Rosy carmine pink, large, beautiful form; an excellent flower.

RED MOSS—(M.) Stalks, flowers and buds covered with fine thorns, much resembling moss.

RED RADIANCE—(H. T.) There is no finer rose for the garden. Lovely, rich red blooms, large and globular, with strong stems, ideal for cutting. Strong, steady bloomer throughout the summer.

SIR THOMAS LIPTON—(H. R.) Flowers perfectly double, pure white. Fragrant. Strong and vigorous. The best double white rose in its class.

SOLEIL D'OR—(H. P.) A beautiful new rose of rich, golden-yellow, shaded with a beautiful deep red. A robust, vigorous grower and free bloomer. The grandest rose ever introduced. Is bound to please the most fastidious. Perfectly hardy.

TALISMAN—(H. T.) This rose has the most gorgeous collection of colors ever presented by a rose. The most sensational Hybrid Tea Rose of all time. Brilliant orange-red buds, long and beautifully formed, open to a large, fragrant double bloom of glowing golden-yellow stained with copper and rose. It arouses the greatest admiration everywhere.

ULRICH BRUNNER—(H. P.) Bush literally covered in June with large, attractive, cherry-red, fragrant blooms. Its profuse bloom produces a magnificent effect. Very hardy. Has unusual vigor.

Rock Garden Plants

The rock garden is one of the most interesting phases of modern gardening. It is an effective way of adding a modern note to your home grounds. No matter how one's grounds are arranged, you will find some natural opportunity for a rock garden. An uneven piece of ground, a hillside, a ravine, or the banks bordering a walk or drive—any of these natural situations can be transformed into a distinctive rock garden. Even a flat area may be graded to various levels and thus serve as the foundation of a rock garden.

A rock garden should appear as naturalistic as possible, so keep this in mind when selecting the rocks. The best kind to use are those between the round or boulder type and the flat or flagstone type. Avoid the use of too many small stones for they will give a spotty, artificial effect.

As you put the rocks in position, remember that the plants will derive nourishment from

the soil, not from the rocks. Therefore, have more plant surface than rock surface. Lay the lower rocks first and place each upper rock so that it recedes from the one beneath. Tamp the soil lightly into the crevices to eliminate air pockets. Tilt the broadest surface of each rock so the water will run into the soil pockets, as illustrated in the drawing.

In placing the flowering plants consider their height, color and adaptability. For instance, drooping plants should be near the top; tufted varieties with short flower stalks in the crevices and creeping plants to cushion the flat areas. Dwarf evergreens and shrubs are at home in the rock garden, while taller varieties serve as a background.

The following list of rock garden plants contains some of the finest Alpine and rockery plants we know. Many other small shrubs and perennials are also suitable for rock garden planting.

CARPATICA (Harebell)

A pretty species growing in compact tufts, not exceeding eight inches high; flowers clear blue; held erect on wiry stems. It begins blooming in June, continuing until October. As an edging for a hardy border or for the rockery, it is unsurpassed.

HELIANTHEMUM (Rock or Sun Rose)

Low growing, evergreen plants, forming broad clumps, and which during their flowering season, July to September, are hidden by a mass of bloom; for the front of the border, the rockery, or a dry, sunny bank.

Multiply. Golden yellow flowers, light green foliage.

Potifidum. Yellow flowers, blue-green foliage.

Stramiaueum. Rose-white, yellow center, glossy green foliage.

Varabile. Pinkish-yellow flowers, foliage glossy green.

SEDMUM (Stonecrop, Liveforever)

The ideal Rock Garden plant. Low growing, filling in nicely around the rocks. Sedum are hardy and require no winter protection. No rock garden is complete without an assortment of various kinds of sedum. We list below varieties that have proven very satisfactory in our plantings:

Aere (Golden Moss). Much used for covering graves; foliage green; flowers bright yellow; prostrate and slowly spreading.

Album. Dwarf and spreading; thick, waxy round foliage; white flowers; good rock plant.

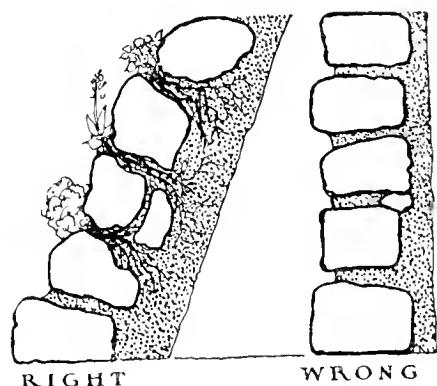
Altissimum. Compact; fleshy blue-green sharply pointed leaves. Very pretty plant.

Kamtschaticum. Orange-yellow flowers, with prostrate, green foliage, turning golden in autumn.

Reflexum. Creeping, reddish stems; nodding buds; heads of yellow flowers; very choice kind.

Sarmentosum. Excellent dwarf variety for rockeries or bordering edgings. The best Sedum for filling seams between rocks in wall garden; rapid grower.

Sexangulare. Very dark green foliage; yellow flowers; habit much like that of the Aere.



Stoloniferum. Most desirable; evergreen leaves; flowering purplish pink. July and August. Excellent for Rock Garden.

Spectabile. One of the prettiest erect growing species, attaining a height of 18 inches, with broad, light green foliage and immense heads of handsome, showy, rose colored flowers; indispensable as a late fall-blooming plant.

Spectabile Variegated. Green and white foliage. 18 inches.

STATICE (Latifolia)

(Sea Lavender.) Broad, thick leaves; upright; finely branched panicles of small blue flowers; growing 1 to 2 feet high. August-September. Splendid for cutting and drying. Endures driest weather.

THYMUS

Very choicer low plants making dense mats. Excellent for rockeries or among stepping stones. Thrive in poor acid soil in sun.

Coccineus. A carpet of dark green, with many dark red flowers in June-July.

VERONICA

A very interesting family of plants that form excellent subjects for the hardy border and rockery. They will thrive in a rich, well-drained soil, in an open situation in full sun.

Elegans. A nice erect growing variety, 12 inches; big flowers; pink; July.

Ruprechtis. A fine rock plant growing 3 to 4 inches high; thickly matted, deep green foliage, hidden in early June under a cloud of bright blue flowers. Does well in light shade and is also a good ground cover for shrub borders.

Spicata. Long spikes of violet-blue flowers all summer; a very fine variety for the middle of the hardy border. For best results lift and divide every three years, and fertilize well with bone meal. Grows about 24 inches tall.

Alphabetical Index of Varieties

(Continued from inside front cover)

Chinese Matrimony Vine	56	I	Red Oak	43	
Chinese Yellow Honeysuckle	56		Red Osier (Cornus)	46	
Chrysanthemum	58		Red Snowberry	48	
Clematis	56		Rhodotypos Kerrioides	48	
Climbing Roses	65-67		Rhubarb	34	
Climbing Vines	55		Richardii Poplar	43	
Colorado Blue Spruce	38		Rock Cress (Arabis Compacta)	57	
Columbine (Aquilegia)	58		Rocky Mountain Columbine	59	
Concolor	38		Rose Acacia	48	
Coral Berry (Snowberry Red)	48		Roses	64-67	
Coreopsis	58		Russian Mulberry	34	
Cornus	46		Russian Olive	43, 48, 54	
Crab Apple	26	J	S		
Crab, Bechtel's Double Flowering	46		Salicaria	59	
Crab, Double Flowering	42		Salix	54	
Crab, Scheideckeri	46		Salvia	59	
Cranberry, High Bush	47		Scheideckeri's Crab	46	
Currants	32		Schwedler's Maple	43	
Cut Leaf Weeping Birch	44	K	Scotch Pine	39	
D			Sedum	68	
Dahlias	62		Shade and Ornamental Trees	41-43	
Daisy, Shasta	59		Shasta Daisy	59	
Delphinium (Larkspur)	59		Shrubs	45-50	
Deutzia, Pride of Rochester	46		Siberian Pea Tree	54	
Devil's Walking Stick (Aralia Spinosa)	46		Silky Dogwood (Cornus Amomum)	46	
Dewberry	34		Silver Leaf Poplar	43	
Digitalis	58		Smoke Tree (Purple Fringe)	48	
Dogwood (Cornus)	46		Snowball	48	
Double Flowering Crab	42		Snowberry	48-49	
Double Flowering Plum	46		Soft Maple	42, 43	
Douglas Spruce	38		Spirea	49, 55, 59	
Dutchman's Pipe	56		Spirea Filipendula	59	
Dwarf Pine	39		Spruce	38-39	
E			Statice	59	
Elder, Golden	46		Strawberries	32	
Elm	42-43		Strawberry Bush (Euonymous)	46	
English Hybrids (Larkspur)	59		Sumac	49-50	
Euonymus	46		Sweet William	60	
Euonymus Alatus	46		Syringa	50	
Euonymus Radicans	46	M	T		
Evergreens	35-41		Tamarix	50	
F			Tartarian Honeysuckle	55	
Fir	38		Tea's Weeping Mulberry	44	
Flowering Almond	46		Thorn Apple	50	
Forget-Me-Not	58		Thuya (Arbor Vitae)	37-38	
Forsythia	46, 47		Thymus	68	
Fox-Glove	58		Tritoma	60	
G			Trumpet Flower	56	
Gaillardia	58	O	U		
Giant Daisy (Pyrethrum)	59		Umbrella Tree (Catalpa)	42, 44	
Gladioli	62		V		
Globe Flower (Kerria-Japonica)	47		Vase Elm	43	
Golden Banded Lily (Auratum)	63		Vegetables	34	
Golden Bell (Forsythia)	46, 47		Veronica	68	
Golden Glow	59		Veronica-Speedwell	60	
Golden Wave (Coreopsis)	58		Veronica-Spicata	60	
Gooseberries	31		Viburnum	50	
Grapes	33		Vines	55-56	
Guilder Rose (Snowball)	48		Viola	60	
Gypsophllia (Baby's Breath)	58		Virginia Creeper (Ampelopsis)	55	
H		P	W		
Hackberry	42	Patten Weeping Elm	44	Walnut	42
Hall's Japan Honeysuckle	56	Peaches	30	Wayfaring Tree (Viburnum Lantana)	50
Hansen's Purple Plum	47	Pears	29	Weeping Trees	44
Hard Maple	42	Pea Tree, Siberian	54	Weigelia	50
Hardy Sweet Peas	59	Peonies	61	White Cedar (Arbor Vitae)	37-38
Harebell (Carpatica)	68	Perennial Plants	57-59	White Elm	43
Hawthorn (Thorn Apple)	50	Phlox	60	White Spruce	39
Hazelnut	42, 47	Physostegia	59	Wier's Cut Leaf Maple	43, 44
Hedge Plants	54-55	Pie Plant	34	Willows	43
Helianthemum	68	Pine	38-39	Wisteria	56
Herbaceous Perennials	57-59	Pink Flowering Locust (Acacia)	46	Woodbine (Ampelopsis Quinquefolia)	55
Hibiscus	59	Planks	59	Y	
High Bush Cranberry	47	Pin Oak	43	Yarrow (Achillea)	57
Hills of Snow (Hydrangea)	47	Platycodon	59	Yucca	63
Hollyhocks	59	Plums	27-28	Z	
Honeysuckle	47, 56	Plum Cherry Hybrids	28	Zumbro Cherry	28
Hopa Crab	47	Plums, Flowering	46		
Horned Violet (Viola)	60	Poplar	43		
Hydrangea	47	Poppy	59		
		Privet, Amoor River	54		
		Prvlet, Callfornia	54		
		Purple Fringe	48		
		Pussy Willow	48		
		Pyrethrum	59		
		R			
		Raspberries	30		
		Red Cedar	39		
		Red Leaved Barberry	48		

